RUTGERS

THE STATE UNIVERSITY
OF NEW JERSEY

Rutgers University

2025-2026 New Brunswick Graduate Catalog

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Social Work 910 (SGS-SW) 1417
Sociology 920 (SGS-SOCIOLOGY) 1417
Spanish 940 (SGS-SPANISH) 1428
Statistics 960 (SGS-STATS) 1449
Statistics - Data Science 954 (SGS-DS) 1462
Statistics - Financial Statistics and Risk Management 958 (SGS-FSRM) 1469
TOXICOLOGY 963 1477
Women's, Gender, and Sexuality Studies 988 (SGS-WGSS) 1487
Cognitive Science 185 (SGS-COGS) 1508
Geospatial Information Science 455 (SGS-GEOIS) 1508
Human Dimensions of Environmental Change Graduate Certificate Program 378 (SGS-ENVCH) 1511
Latin American Studies (SGS-LAS) 1514
Science and Technology Management 885 (SGS-STM) 1515

Mission of the School (EJB-G)

MISSION OF THE SCHOOL

The mission of the Bloustein School is to create just, socially inclusive, environmentally sustainable, and healthy local, national, and global communities.

Edward J. Bloustein--Rutgers president, constitutional scholar, active citizen, philosopher, and teacher--lived a life of civic engagement that the school's ethic seeks to perpetuate. Research, teaching, and outreach at the Bloustein School aim for intellectual originality and practical rigor in an atmosphere of spirited and open debate. Bloustein activities are rooted in the diversity of experience and thought. They create settings where individuals and communities can flourish.

The Bloustein ethic strives to improve the quality of public discourse by producing ideas and measures that have impact and engages those who do their jobs not just honorably, but with a passion for their work that alters their surroundings. The Bloustein School seeks to foster new research and thinking that achieve both scholarly recognition and public acceptance. Visit the Bloustein website.

Education (EJB-G)

Education

The Bloustein School supports a wide variety of educational activities, from undergraduate, master's, and doctoral degree programs to continuing education courses and conferences for professionals and alumni. The school also hosts international fellows programs, which provide education and professional development opportunities for individuals from nations around the world.

The core purpose of all our educational programs is to enhance students' understanding of the theories, methods, and practices of urban planning, public policy, public health, informatics, and health administration. The school's educational programs encourage open discussion of all viewpoints, the application of quantitative methods for analysis, the careful study of history, and a thorough consideration of economic and demographic trends and political institutions and processes.

Full- and part-time students examine theories and methods in a variety of concentrations, including community and economic development, public health, workforce development, land use, housing, transportation, urban design, education, social policy, science and technology policy, and environmental policy.

Research (EJB-G)

Research

The Bloustein School serves as an intellectual focal point at Rutgers University for the examination of societal problems and solutions. Research undertakings are governed by a strong commitment to quality through the use of sound social science theory and methods and to full dissemination of results and peer review of findings.

Research is carried out on a wide variety of challenging topics. Specialized centers, established by the university's Board of Governors, carry out large-scale projects and are supported by external funding. The centers support the educational and public service mission by focusing research in substantive areas of the school's strength and by supporting students, faculty, and staff in those areas.

Service (EJB-G)

Service

The Bloustein School is committed to addressing community, regional, state, national, and international needs.

Faculty, staff, and students fulfill this commitment in a variety of ways: by preparing students for careers in public service, through continuing education courses and seminars; by serving as advisers to public officials and community organizations; by working to strengthen the capacity of governmental and nonprofit organizations through education and training; and by undertaking research projects that address the pressing needs and concerns of our society.

Academic Programs, Centers, and Institutes (EJB-G)

ACADEMIC PROGRAMS, CENTERS, AND INSTITUTES

The Bloustein School comprises two doctoral programs (planning and public policy, and health administration); four master's-level academic programs: public policy, urban planning and policy development, health administration, and public informatics; five undergraduate bachelor's degrees in city and regional planning, health administration, public health, public policy, and urban planning and design; and postbaccalaureate, nondegree granting certificate programs. The school's activities are augmented by its ongoing research and outreach.

Discovering new knowledge. Providing leadership. Setting standards of excellence. Rutgers' Edward J. Bloustein School of Planning and Public Policy is one of the premier institutions of its kind. The school is host to several nationally recognized research centers and collaborative programs. Many of these centers offer continuing education and training programs for government officials, nonprofit leaders, and career professionals, enabling the school to broaden its outreach endeavors.

ACADEMIC PROGRAMS

Undergraduate Programs
Christina Torian, Assistant Dean of Undergraduate Education

Doctoral Program in Planning and Public Policy
Michael Smart, Director

Public Policy Program
Julia Sass Rubin, Director

Urban Planning and Policy Development Program
Mi Shih, Director

Health Administration Program
Soumitra Bhuyan , Executive Director

Informatics Program
Jim Samuel, Executive Director

RESEARCH CENTERS AND INSTITUTES

Bloustein Center for Survey Research
Nancy Wolff, Director
Siobhan Power, Associate Director

Center for Urban Policy Research
Clinton J. Andrews, Director
David Listokin, Associate Director
Jennifer Senick, Executive Director

- Bloustein Local
- Built Environment and Green Building
- Infrastructure Networks
- Environmental Analysis and Communications Group
- Urban Policy

John J. Heldrich Center for Workforce Development
Carl Van Horn, Director
Andrea Hetling, Associate Director
Laurie Harrington, Executive Director

New Jersey State Policy Lab
Elizabeth Cooner, Executive Director

- Center for Negotiation and Conflict Resolution
- Rutgers Economic Advisory Service (R/ECON)
  Will Irving, Director

Rutgers Urban and Civic Informatics Lab
Piyushimita "Vonu" Thakuriah, Director

Alan M. Voorhees Transportation Center
Robert B. Noland, Director
Leigh Ann Von Hagen, Executive Director

- National Transit Institute
  Geisha Ester, Director
- New Jersey Travel Independence Program (NJTIP @ Rutgers)
  Andrea Lubin, Managing Director
- New Jersey Bicycle & Pedestrian Resource Center
- New Jersey Safe Routes to School

Ralph W. Voorhees Center for Civic Engagement
Kathe Newman, Director

Location (EJB-G)

LOCATION

In addition to being an integral part of the university, the Bloustein School is a vital part of the New Brunswick community. Designated as one of the state's most significant areas for education and health care, the city is home to Rutgers University-New Brunswick (including its historic Old Queens Campus) and Rutgers Robert Wood Johnson Medical School, Saint Peter's University Hospital, and Rutgers Cancer Institute of New Jersey.

The Bloustein School is situated at the Civic Square Building in downtown New Brunswick, where it occupies an essential place in central New Jersey's educational and cultural hub. The locale includes a thriving cultural area--the State Theatre and the New Brunswick Performing Arts Center, home to the George Street Playhouse, Crossroads Theatre, and the American Repertory Ballet--are steps away, and a wide variety of restaurants provide menus for every taste.

The Bloustein School's home, Civic Square, is within a five-minute walk of the city's train station. The New Brunswick train station, which has NJ TRANSIT and Amtrak connections, is approximately one hour from New York City and Philadelphia. To reach the Bloustein School from the train station, cross Albany Street (Route 27) and turn left. Walk a block and a half to George Street. Turn right onto George Street and walk four blocks to Livingston Avenue. Turn right onto Livingston Avenue; the Bloustein School is at the corner of Livingston Avenue and New Street.

Programs and Degrees (EJB-G)

PROGRAMS AND DEGREES

Doctoral

Public Policy

Urban Planning and Policy Development

Health and Administration

Public Informatics

Postbaccalaureate Certificates

Additional Degrees: Graduate Public Health

Doctoral Programs (EJB-G)

DOCTORAL PROGRAMS

Doctor of Philosophy (Ph.D.) in Planning and Public Policy (School of Graduate Studies)

Comprehensive information about the Bloustein School's doctoral degree can be found at Ph.D. Planning and Public Policy.

Doctor of Health Administration (D.H.A.)

Comprehensive information about the Bloustein School's Doctor of Health Administration (D.H.A.) can be found at Doctor of Health Administration.

Public Policy (EJB-G)

PUBLIC POLICY

Master of Public Policy (M.P.P.)

Master of Public Affairs and Politics (M.P.A.P.)

Master of Public Policy (M.P.P.) / Master of City and Regional Planning (M.C.R.P.) (with the Bloustein School's urban planning program)

Master of Public Policy (M.P.P.) / Master of Public Informatics (M.P.I.) (with the Bloustein School's public informatics program)

Master of Public Policy (M.P.P.) / Juris Doctor (J.D.) (dual-degree program with Rutgers Law School in Camden or Newark)

Master of Public Policy (M.P.P.) / Master of Business Administration (M.B.A.) (dual-degree program with Rutgers Business School: Graduate Programs-Newark and New Brunswick)

Master of Public Policy (M.P.P.) / Master of Social Work (M.S.W.) (dual-degree program with Rutgers School of Social Work)

Master of Public Policy (M.P.P.) / Master of Public Health (M.P.H.) (dual-degree program with Rutgers School of Public Health, jointly administered with the Bloustein School)

Master of Public Policy (M.P.P.) / B.A. or B.S. (offered with Rutgers University-New Brunswick undergraduate schools and administered by the Bloustein School)

Comprehensive information about the Bloustein School's public policy master's programs may be found online.

Urban Planning and Policy Development (EJB-G)

URBAN PLANNING AND POLICY DEVELOPMENT

Master of City and Regional Planning (M.C.R.P.) (two-year program of study)

Master of City and Regional Studies (M.C.R.S.)

M.C.R.P./Master of Public Informatics (M.P.I.) (with the Bloustein School's public informatics program)

M.C.R.P./Master of Public Policy (M.P.P.) (with the Bloustein School's public policy program)

M.C.R.P./Juris Doctor (J.D.) (one-year program of study with Rutgers Law School in Camden or Newark)

M.C.R.P./Master of Business Administration (M.B.A.) (dual-degree program with Rutgers Business School: Graduate Programs-Newark and New Brunswick)

M.C.R.P./Master of Infrastructure Planning (M.I.P) (dual-degree program with New Jersey Institute of Technology [NJIT])

M.C.R.P. or M.C.R.S./Master of Science (M.S.) in food and business economics

B.A. or B.S./Master of City and Regional Planning (M.C.R.P.) (offered with Rutgers University-New Brunswick undergraduate schools and administered by the Bloustein School)

Comprehensive information about the Bloustein School's urban planning master's programs can be found online.

Health Administration (EJB-G)

HEALTH ADMINISTRATION

Master of Health Administration (M.H.A.), traditional program (two-year, 45-credit program) -- for students with bachelor's degrees planning to work in health care or those seeking to make a career change

Comprehensive information about the Bloustein School's health administration master's programs may be found at Health Administration.

Public Informatics (EJB-G)

PUBLIC INFORMATICS

Master of Public Informatics (M.P.I.) -- A STEM-designated master's program (18-month program)

M.P.I. / Master of City and Regional Planning (M.C.R.P.) (two and one-half year, dual-degree program with the Bloustein School's urban planning and policy development program)

M.P.I. / Master of Public Policy (M.P.P.) (two and one-half year, dual-degree program with the Bloustein School's public policy program)

Comprehensive information about the Bloustein School's public informatics master's programs may be found online.

Graduate Certificates (EJB-G)

GRADUATE CERTIFICATES

The Bloustein School's graduate certificate programs allow nonmatriculated students, who have completed an undergraduate degree from a nationally/internationally accredited program, to enhance skills by developing cross-disciplinary expertise in a particular subject area.

Early-career professionals may pursue a certificate in order to enhance specific skills and explore pursuing the Bloustein School's full master's degree programs. Mid-career professionals may find the certificates of interest in order to upgrade and advance particular skills.

Students who successfully complete the 12-credit curriculum for a certificate are eligible to apply for the Bloustein School's master's programs in the related field and, if admitted, use their credits as part of their degree requirements.

- Certificate in Public and Urban Informatics (enhances data and informatics skills to the application of planning and public policy topics)
- Certificate in Public Policy (enhances knowledge and skills in the applied and interdisciplinary field of public policy)

Comprehensive information about the Bloustein School's graduate certificate programs may be found at Graduate Programs.

Additional Degrees: Graduate Public Health (EJB-G)

ADDITIONAL DEGREES: GRADUATE PUBLIC HEALTH

The following program is administered by the Bloustein School:

- Bachelor of Science in Public Health (B.S.)

All graduate programs in public health are administered by the Rutgers School of Public Health unless otherwise noted:

- Master of Public Health (M.P.H.)
- Master of Science (M.S.)
- Bachelor of Science and Master of Public Health (B.A./M.P.H) -- *jointly administered with the Bloustein School*
- Juris Doctor and Master of Public Health (J.D./M.P.H.)
- Master of Public Health and Master of Social Work (M.P.H./M.S.W.)
- Master of Public Health and Master of Business Administration (M.P.H./M.B.A.)
- Master of Public Health and Master of Biomedical Science (M.P.H./M.B.S.)
- Master of Public Health and Master of Science in Physician Assistant (M.P.H./M.S.P.A.)
- Master of Public Health and Master of Public Policy and (M.P.H./M.P.P.) -- *jointly administered with the Bloustein School*
- Doctor of Philosophy (Ph.D.)

- Doctor of Public Health (Dr.P.H.)
- Doctor of Medicine and Master of Public Health (M.D./M.P.H.)
- Doctor of Pharmacy/Master of Public Health (Pharm.D./M.P.H.)
- Doctor of Psychology and Master of Public Health (Psy.D./M.P.H.)
- Certificate Programs

Financial Aid (EJB-G)

FINANCIAL AID

The Edward J. Bloustein School of Planning and Public Policy and the Office of Financial Aid at Rutgers, The State University of New Jersey, are committed to assisting students with funds to help defray educational expenses. Since a student's financial resources often determine whether or not he or she attends college, every effort is made to assist each student in finding alternative resources to finance an education.

The majority of graduate students at the university, like most graduate students in the United States, receive some measure of financial aid. The amount of support each student receives depends in part, of course, upon the availability of funds. The availability of support is often dependent upon the specific graduate program and degree status. Support ranges from grants covering tuition charges to awards sufficient to pay all educational and living expenses. The sources of support include university funds, federal and state government funds, corporate and individual bequests to the university, and grants from educational and scientific foundations.

Limited funds are available from scholarships, fellowships, assistantships, grants, low-interest loans, and part-time employment to students at the school. To apply for grants, loans, and employment, students must complete the Free Application for Federal Student Aid (FAFSA), which is available at Student Aid and from most college and university financial aid offices. At Rutgers, contact the Office of Financial Aid, Rutgers, The State University of New Jersey.

Information about merit-based scholarships, fellowships, and assistantships for graduate students at the Bloustein School can be found at Scholarships, Financial Aid, and Student Work Opportunities. The awarding of these funds are handled by the school with determinations from individual academic programs. In all cases, applicants are considered for all forms of aid for which they are eligible. For more information on financial aid, including how to apply for aid, sources of financial aid, and restrictions on financial aid and employment, visit Financial Services.

Academic Policies and Procedures (EJB-G)

ACADEMIC POLICIES AND PROCEDURES

Note: See the **University Policies and Procedures** section in the Rutgers Main catalog for university-wide academic policies and procedures.

Bloustein School Office of Student and Academic Services

General Degree Regulations

Registration and Course Information

Class Schedules and Hours

Cancellation of Classes

Grades and Records

Scholastic Standing

General Degree Regulations (EJB-G)

General Degree Regulations

Graduate Programs

During the academic year, a part-time student may register for a maximum of 6 credits. The normal and maximum load for a full-time student is 12 credits (15 for Master of Public Affairs and Politics [MPAP] and Master of City and Regional Studies [MCRS] students); registration for additional credits requires the advance approval of the graduate program director and the assistant dean for academic administration. During Summer Session, all students are limited to one (1) credit per week of attendance.

Graduate and Undergraduate Programs

The policy of the school is that credit for a course may not be applied toward both of two degrees pursued simultaneously at Rutgers, except when the student is enrolled in certain approved dual-degree programs. In those cases in which a student is authorized to include credits in his or her degree program for courses taken at the school prior to admission as a degree candidate, the date of the beginning of the coursework to be credited establishes the beginning of the time allowed to complete the degree.

The requirements for degrees and examinations and related program requirements are formulated by each program's faculty and are intended to provide the strongest possible professional preparation for students undertaking these programs.

Modifications to academic regulations may be necessary from time to time. New regulations supersede old regulations unless the student elects to be considered under the old regulations. Students should be encouraged to double-check with the program or school Office of Student and Academic Services for current information.

Registration and Course Information (EJB-G)

REGISTRATION AND COURSE INFORMATION

Formal admission to the Edward J. Bloustein School of Planning and Public Policy and payment of or arrangement with student accounts regarding payment of tuition and fees are a part of the registration process, and registration is a prerequisite for class attendance. All students who complete registration on time receive registration instructions by email for the following semester, and those who take part in preregistration receive term bills for the following semester. All students, regardless of method of payment, must make contact with student accounts each

semester or their registration will be canceled. Students who do not receive registration instructions by August 15 for the fall semester and by January 15 for the spring semester should contact the Office of Student and Academic Services. Newly admitted students receive registration instructions at the time of their admission.

Registration and Course Information (EJB-G)

Advising Procedures

Advising Procedures

Each student is assigned a faculty adviser to whom questions regarding academic program, instruction, and related concerns should be addressed. If and when a student believes that concerns have not been adequately addressed with the adviser, a conference with the program director is the appropriate next step. In addition, the Office of Student and Academic Services has advising staff that can help navigate academic and social advising questions and can be a resource for those not receiving such counsel.

Registration and Course Information (EJB-G)

Continuous Registration

Continuous Registration

All students in degree programs must maintain status in the school by registering each fall and spring semester in coursework, research, dissertation study, or in matriculation continued. Students who fail to maintain continuous registration in coursework, research, or matriculation continued must apply for reinstatement if they are to continue in good standing. Such students are charged an amount equal to the cost of registering for matriculation continued for each semester in which they failed to register. This registration is available only to students who were not present on campus and not using faculty time or university research facilities.

Registration and Course Information (EJB-G)

Matriculation Continued

Matriculation Continued

Students who are obliged to interrupt their studies may, with the approval of their graduate program director and Office of Student and Academic Services, register for matriculation continued (leave of absence). There is no tuition fee for this registration although a small student fee is charged. This category of registration is available only to students not present on campus and not using faculty time and university research facilities. All graduate students who are on campus and engaged in the completion of degree requirements must register for at least one (1) credit per semester. Late registration for matriculation continued is not allowed beyond the second week of the semester. After this time, the student is required to apply for reinstatement and, depending on degree status, may be subject to a restorative fee. Students wishing to drop all courses and add matriculation continued must do so prior to the first day of the semester.

Registration and Course Information (EJB-G)

Late Registration

Late Registration

Arrangements with student accounts regarding payment of tuition and fees are part of the registration process; registration is a prerequisite to class attendance. Continuing students who fail to register during the advance registration period may register late only during scheduled late registration periods and not later than the seventh calendar day following the start of the semester. A late fee of $75 will be assessed and must be prepaid for any late registration submitted after the published date.

Registration and Course Information (EJB-G)

Summer Registration

Summer Registration

The Edward J. Bloustein School of Planning and Public Policy offers a limited number of courses in the day and evening during the Summer Session. Full information is found from the Division of Summer Session, Rutgers, The State University of New Jersey.

The requirement that degree students must remain in continuous registration from the time they are admitted until their degrees are earned applies to the regular academic year only (Fall-Spring), not to the Summer Session.

Registration and Course Information (EJB-G)

Change or Registration and Withdrawal

Change or Registration and Withdrawal

After the second week of classes, the only routinely permissible changes of registration are withdrawals from individual courses or withdrawal from all courses. Both procedures are allowed without academic penalty until the end of the eighth week, and may be accomplished through WebReg or by a form that is available on the ScarletHub . The date on which the registrar receives notification of withdrawal from the student governs the academic and financial consequences of the withdrawal. Detailed information can be found in the University Withdrawal Process page . A student who stops attending a course without notifying the registrar will receive a grade of F in that course. A student who withdraws from courses may receive a partial refund according to the rules described on the Student Accounting website .

Registration and Course Information (EJB-G)

Transfer of Credit for the M.C.R.P., M.C.R.S., M.P.A.P., and M.P.P. Degrees

Transfer of Credit for the M.C.R.P., M.C.R.S., M.P.A.P., and M.P.P. Degrees

Credit for graduate courses taken at other institutions may not be transferred until 12 credits of graduate courses with grades of B or better have been completed in the Edward J. Bloustein School of Planning and Public Policy as a matriculated student. Transfer of up to 12 credits is allowed only for formal graduate-level coursework specifically related to the student's program of study and in which grades of B or better were received. No credit may be transferred for thesis research work, coursework done as independent study, or work in courses that were not graded. P or S grades are eligible for transfer if equivalent to a grade of B or better and accompanied by a letter of equivalency from the instructor of the course. Special permission is required to transfer credit for courses taken more than six years prior to the application for transfer of credit. Quarter credits are converted to semester credits by reducing the total by one-third. For transfer of graduate courses taken as an undergraduate student or toward another graduate degree, a letter is required from the registrar of the institution involved stating that the course(s) was (were) not used toward another undergraduate or graduate degree. Applications for transfer of credit are available from the Bloustein School's Office of Student and Academic Services.

Registration and Course Information (EJB-G)

Interschool Registration

Interschool Registration

A student in the Bloustein School may register for a course offered by another division of the university with his or her adviser's approval. Other approvals may be required including the division where the course is offered, and the Bloustein School Office of Student and Academic Services.

It is not necessary to seek admission to another division of the university to take a course as part of the student's Bloustein School degree program. Students registering for courses at the New Brunswick Theological Seminary, the New Jersey Institute of Technology, or Princeton University also must complete appropriate forms available from the Office of Student and Academic Services.

Registration and Course Information (EJB-G)

Multiple School Registration

Multiple School Registration

It is the policy of the university that a student may not be admitted to and registered in more than one unit of the university simultaneously. Students wishing to take courses in more than one unit in the same semester (or wishing to take courses in units in which they are not enrolled) may accomplish this through interdepartmental registration.

When, through multiple applications, a student is offered admission to more than one unit of the university, the student may register in only one. When a student has been admitted to a graduate and undergraduate unit, the registration is in the undergraduate unit until completion.

This policy is in no way intended to abridge a student's freedom to pursue two or more degrees. Such students must take on one experience, followed by the other and change official enrollments when complete with the first. Only officially-approved dual degree or joint-degree programs between units can be registered in simultaneously, typically to a planned out official dual or joint degree.

Registration and Course Information (EJB-G)

Course Exchange Agreements

Course Exchange Agreements

Rutgers-Princeton Cooperative Exchange Program

Rutgers University and Princeton University have been engaged in an exchange program since 1964. The program is informal in that admission to and registration at the host institution are not required. No funds are exchanged between the two institutions; the student pays tuition only at the home institution. Bloustein School students will find the programs of the Princeton School of Public and International Affairs particularly of interest. Forms and policies are available from the Bloustein School's Office of Student and Academic Services.

NJIT/New Brunswick Graduate Student Exchange

Starting in spring 2006, students in the Edward J. Bloustein School of Planning and Public Policy and the Graduate School-New Brunswick were again permitted to take courses at the New Jersey Institute of Technology (NJIT) via a longstanding arrangement between Rutgers University-Newark and NJIT. The processes are outlined at the Office of the Registrar, New Brunswick website.

Registration and Course Information (EJB-G)

Graduate Enrollment in Undergraduate Courses

Graduate Enrollment in Undergraduate Courses

Any course numbered 500 or above is designed for graduate students and normally carries credit toward one of the advanced degrees. Certain advanced undergraduate courses numbered in the 300s and 400s also may be approved for a given graduate student, either as a regular part of his or her graduate program or as a means of remedying a deficiency in preparation. When a matriculated graduate student is permitted or requested to enroll in a course numbered below 500, explicit approval by the student's adviser is required and the credit prefix G, N, or E appears on the transcript. See Grades and Records later in this chapter for rules related to credit prefixes. Students registering in undergraduate courses are subject to the policies of the undergraduate division offering the course. See the Office of Student and Academic Services for appropriate forms and procedures.

Registration and Course Information (EJB-G)

Undergraduate Enrollment in Graduate Courses

Undergraduate Enrollment in Graduate Courses

Undergraduate seniors may take up to 6 credits (two courses, 3 credits each) of graduate coursework at the Bloustein School should they meet one of the following criteria: be a student in good standing with at least 90 credits and a cumulative grade-point average of at least 3.2; or are completing a college honors program and have special dispensation from the academic dean of their undergraduate school.

All undergraduate students seeking to register for a graduate course must have the approval of their college academic dean and the chair or director of their major department or program. In addition, both the director of the graduate program in question, as well as the Office of Student and Academic Services of the Bloustein School, must approve undergraduate registration in the school's graduate-level classes. Paperwork for such registration must be filled out in advance, and is available from the before-mentioned offices. It should be noted that graduate classes counted for credit toward an undergraduate degree cannot also be used toward credit for a future graduate degree (double counted).

Registration and Course Information (EJB-G)

Official Auditing of Courses

Official Auditing of Courses

A student may enroll in a course without receiving academic credit if (1) space is available, (2) the instructor has approved the audit, and (3) the graduate program director has given advance approval. At registration an N is placed in the credit-hour prefix of the registration. All course requirements except the final examination must be completed. The student is graded S or U (satisfactory or unsatisfactory), and the course and grade are entered on the student's permanent record, but no credit is given toward a degree for the course.

Registration and Course Information (EJB-G)

Full-Time and Part-Time Students

Full-Time and Part-Time Students

For statistical, billing, and veteran certification purposes, a full-time student is defined as one who is taking 9 or more credits. Those taking less than 9 credits are part-time students. All courses, including those taken not-for-credit, are counted in computing the credits taken, except for VA certification. In Summer Session, a credit load of 4.5 or more credits is considered full time.

If you are looking for a full-time credit determination for loan purposes, be sure to check with your loan carrier as well.

Registration and Course Information (EJB-G)

Teaching Assistants and Graduate Assistants

Teaching Assistants and Graduate Assistants

Teaching assistants and graduate assistants are required to register for at least 9 credits in coursework (if appropriate), but not more than 12 credits of coursework, per semester.

Teaching assistants and graduate assistants may register their assistantship approvals (per semester appointed) if they need to show 9 or 12 credits but are registered for less than that in coursework.

Graduate assistants register in subject number 970, 833 or 816, course number 866; and teaching assistants register in subject number 970, 833 or 816, course number 877.

Registration and Course Information (EJB-G)

Change of Degree Program

Change of Degree Program

A change of degree program within the school requires the approval of the director of the program to which the student is changing. Forms are available from the Bloustein School's Office of Student and Academic Services.

Registration and Course Information (EJB-G)

Change of Status

Change of Status

Students desiring a change of status from non-degree to degree must apply for admission through the Office of Graduate and Professional Admissions.

Students wishing to change their degree status (as from master's to doctorate) must request such a change using a form from the Bloustein School's Office of Student and Academic Services.

In both cases, proper admissions and approval processes do apply.

Registration and Course Information (EJB-G)

Communication with Students

Communication with Students

The importance of communication among students, faculty, and staff is not something to neglect. To that end, the school has made efforts over the last few years to coordinate information and provide ways of communicating with its students on a variety of timely topics.

The Bloustein School Office of Student and Academic Services serves full and part-time graduate students by maintaining an email listserv, which serves the student body, as well as faculty and staff. Participation in the listserv is mandatory for students in the programs. This is the primary means of communication with students with regard to special announcements, graduation, upcoming events, and the like.

Finally, the school governance structure provides a myriad of ways in which students can participate, stay informed, and engage in issues confronting the school. Participation in our student organizations is essential for beginning that involvement.

Class Schedules and Hours (EJB-G)

Class Schedules and Hours

Starting and closing dates for each semester, scheduled holidays, and important scheduling information can be found online. All class periods are 160 minutes in length, meeting once a week, unless otherwise specified. There are 15 weeks of instructional activity for each course.

One should check classes offered both at the University Schedule of Classes as well as the Bloustein School Course Offerings page.

Class Schedules and Hours (EJB-G)

Attendance

Attendance

Each instructor is required to maintain an accurate record of attendance for each class or section of which he or she is in charge. Students are expected to be present at each meeting of their classes. Exceptions to this rule may be made in the case of illness and in such other instances as seem justified to the instructor.

University examinations shall not be scheduled on Saturdays except in those courses that regularly meet on Saturday.

Class Schedules and Hours (EJB-G)

Absence Due to Religious Observance

Absence Due to Religious Observance

It is the policy of the university to excuse without penalty students who are absent because of religious observances and to allow the makeup of work missed because of such absence. Examinations and special required out-of-class activities ordinarily will not be scheduled on those days when such students refrain from participating in secular activities. Absences for reasons of religious obligation will not be counted for purposes of reporting. A student absent from an examination because of required religious observance will be given an opportunity to make up the examination without penalty.

Cancellation of Classes (EJB-G)

CANCELLATION OF CLASSES

It is the general policy of the university not to cancel classes because of inclement weather. However, because of the occasional hazards of night driving in the winter, exceptions may be made for evening classes and, under exceptionally hazardous conditions, exceptions may be made for daytime classes.

If weather conditions make it necessary to cancel classes, a message will be available on the operating status page.

Grades and Records (EJB-G)

GRADES AND RECORDS

Students in the Edward J. Bloustein School of Planning and Public Policy are graded in each course at the end of each semester as outlined below. All processes for grades, change of grades, modifications, and special circumstances are reviewed and established at the discretion of the dean and administered through the Office of Student and Academic Services:

Grade	Definition	Numerical Equivalent
A	Outstanding	4.0
B+		3.5
B	Good	3.0
C+		2.5
C	Satisfactory	2.0
F	Failing	0.0

Grades and Records (EJB-G)

Other Grade Symbols

Other Grade Symbols

IN (Incomplete). May be assigned at the discretion of the instructor who believes that an extension of time is warranted for a student whose work is incomplete at the end of the semester. Requires student and instructor to complete a form from the school's Office of Student and Academic Services in advance of the IN grade issued. Incomplete work may be made up and a change of grade may be authorized by the instructor for up to one year after the IN grade was assigned. After one year, an IN will be changed to PIN (Permanent Incomplete).

W (Withdrawal). Withdrawn without evaluation; used when a student officially drops a course or withdraws during the first 12 weeks of the semester.

Grades and Records (EJB-G)

Credit Prefixes

Credit Prefixes

The number of credits appearing on course records and registration forms may be preceded by a letter prefix as follows:

E. Course excluded from credit toward a degree. The student must complete all coursework, including the final exam. Automatically assigned to undergraduate courses not prefixed by G or N.

G. A 300- or 400-level undergraduate course for which credit has been approved toward the graduate degree currently being pursued.

N. Course is taken "not-for-credit"; examination not required; final grade of S (satisfactory) or U (unsatisfactory) assigned.

Graduate students registering for undergraduate coursework are subject to the rules concerning credit prefixes of the undergraduate division offering the course.

Grades and Records (EJB-G)

Transcripts

Transcripts

Requests for official transcripts of a student's academic record should be made through the portal at Transcript/ Enrollment Certification & Term Grade Report System. At least 10 days should be allowed for processing the request.

Grades and Records (EJB-G)

Holds

Holds

The privilege of registration and advance registration are barred to students who have outstanding obligations to the university. Obligations may take the form of unpaid monies, unreturned or damaged books and equipment, parking fines, other charges for which a student may become legally indebted to the university, and failure to comply with disciplinary sanctions or administrative actions.

University departments and offices may place "holds" on registration and diplomas for any students having an outstanding obligation.

Grades and Records (EJB-G)

Grade Appeals

Grade Appeals

Student complaints about grades in any courses offered by the school are addressed using the following process:

Students wishing to file a complaint about a course grade, or a grade received for a particular piece of work in a course, should first attempt to resolve the matter through discussion or writing with the instructor of that course (her/his preference) **no later than two weeks after notification of the grade**. If the issue cannot be satisfactorily resolved between the student and the instructor, the student may specify in writing the basis for the complaint and request a review by the appropriate program director. A written complaint about a grade for work completed while the course is in progress must be submitted to the program director **no later than two weeks** after final determination by the instructor.
A student must submit a written complaint about a final course grade to the program director **no later than four weeks** after final determination by the instructor.

A student who wishes to appeal the decision of the program director should appeal once again in writing to the office of the dean, through the Assistant Dean for Student and Academic Services. Students should be directed to address the written appeal to:

Stephen Weston, Assistant Dean for Student and Academic Services
Bloustein School Dean's Office
33 Livingston Avenue
New Brunswick, NJ,
CAC.

Email is preferred at sdweston@rutgers.edu.

That second level appeal must be filed **within two weeks** of the date of the receipt of the initial Grade Appeal Outcome Statement.

Written notification of the action taken by either the program director or by the assistant dean will be sent to the student **no later than four weeks** of the filing of the appeal, excluding those weeks in which classes are not in regular session. With reference to the actions above, the program director or assistant dean may consult with other faculty, directors, etc., that may be relevant to a student's complaint.

Students who contact the Dean's office without following the above procedure will be referred back to the instructor or program, in order to preserve the integrity of the process and an independent student appeal review. Some things to keep in mind when appealing your grade with the instructor, director or dean include:

- Watch grade appeal timeframes; being busy is not a legitimate excuse.
- Raise issues when they happen, not at the end of the term.
- Stick to the facts of the situation; discuss formally your appeal and keep it professional.
- Avoid emotional language and personal attacks.
- When asking for a second chance, admit where you have been culpable.

- Mentioning your grades in your other classes is not relevant.
- Be leery of end of semester/year grade appeals as they impact graduation deadlines.

For questions about the grade appeal process, students, faculty and/or others are encouraged to speak to their instructor, program director or the assistant dean of the school for clarification.

Scholastic Standing (EJB-G)

SCHOLASTIC STANDING

Graduate

The following academic policy must be adhered to by every student enrolled in a graduate degree program at the Bloustein School:

Each student must maintain an overall grade-point average of 3.0. If a student grade-point average is below a 3.0 at the end of a semester, the student will have one semester to improve the average to 3.0 or greater. During the semester, the student will be placed on academic probation. The probation may have certain specific conditions for the student to meet. Additionally, a student cannot graduate with more than three courses (9 credits) of grades of C+ or below.

In addition to these school-wide policies, individual programs may also have specific requirements for their degrees, and each student should adhere to them in accordance with the program director's oversight.

Students should discuss academic matters (including academic and professional integrity items) with the instructor involved with the issue. Should the problem remain unresolved, the student should approach the program director for a second review. Should the student still not be satisfied with the outcome, the student may bring the matter to the assistant dean for academic administration. The assistant dean may then decide the issue or refer the matter to a university wide hearing for further review and decision.

Undergraduate

The following academic policy must be adhered to by every student enrolled in an undergraduate degree program at the Bloustein School:

Program Grade Requirements

Although there are a variety of different policies governing academic standing requirements at the university, there are some general Bloustein School undergraduate program requirements that must be met prior to graduation from the school and completion of the major.

In all undergraduate programs, the Bloustein School requires that courses used to complete the major of study must be completed with a grade of C or better. If a student receives a grade of D in a required course for the major, the course must be retaken and a grade of C or better received in order to satisfy the requirement.

Transfer Student Policy (Graduate)

Transfer Student Policy (Graduate)

The Bloustein School at Rutgers welcomes transfer students from other institutions into its graduate degree programs. As such, there are certain requirements in order to transfer from another program/institution to one of our programs.

First, all transfer students MUST apply with a graduate application to the program of choice, by stated deadlines, for the term in question. The application must contain all required documentation as outlined by the admissions website.

Second, upon admission and acceptance by the student, he or she must enroll and complete 12 credits in the program of study at Rutgers Bloustein School prior to officially transferring in credit from the previously undertaken degree program. The student would use the "Application for Transfer of Credit" form found in the Student and Academic Services Office.

You have completed 12 credits of graduate level course work with a grade of B or better in one of the Bloustein School graduate degree programs. Transfer of credit is allowed only for formal graduate level course work specifically related to the student's program of study in which a grade of B or better was received. No credit may be transferred for thesis research work, course work done as an independent study or work in courses which were not graded. Grades of P, R or S are eligible for transfer if equivalent to a grade of B or better and accompanied by a letter from the instructor of the course testifying to that equivalency.

Credit is not normally transferred for courses taken more than six years prior to the application for transfer of credit. Appeals for waiver of this time limit may be made to your graduate director, with a statement verifying the current level of the student's information on the subject or that the course material is still current.

For transfer of graduate courses taken as an undergraduate student or toward another graduate degree, it must be shown that the course(s) was (were) not used toward another undergraduate or graduate degree.

In all cases, no more than 25% of the credits (required for the individual program degree may be transferred from an outside institution). Quarter credits will be converted o semester credits by reducing the total by ½ (i.e., 9 quarter credits = 6 semester credits.)

Bloustein School Student and Academic Services (EJB-G)

BLOUSTEIN SCHOOL STUDENT AND ACADEMIC SERVICES

Bloustein School Information Technology Services Office

Bloustein School Career Development

Student Organizations

Bloustein School Information Technology Services Office (EJB-G)

BLOUSTEIN SCHOOL INFORMATION TECHNOLOGY SERVICES OFFICE

The Bloustein School has a modern computing infrastructure that includes workstation class computers that facilitate advanced data processing and analytics and utilize advanced software for statistical work and geoprocessing. The building contains a high-speed data network that includes a 10Gb collapsed backbone and 1Gb connectivity to workstations to facilitate the expeditious transmission of large data sets to and from our facility. There is also enhanced security that includes layered defenses, strong endpoint protection, and a state-of-the-art firewall that shields the environment while providing secure remote access. The school hosts a number of on-premise systems that include both physical and virtual servers providing services such as file, print, web hosting, database systems, and custom research environments. The building also has a high-speed wireless network that provides robust connectivity for all classrooms and conference rooms.

The Bloustein School maintains state-of-the-art computer labs that are used for both instruction and research. The school's computing facilities include a main instructional computer lab, a general-purpose lab, and three dedicated instructional and collaboration studios. Students attending the school have access to 91 high-powered workstation class computers, a printer/scanner facility that includes three scanners and two color laser printers, four networked black-and-white laser printers, two Hewlett Packard Design Jet large-format printers, and one Contex Large Format Scanner. Students also have access to advanced software such as Adobe Creative Suite, ArcGIS Pro, ArcGIS City Engine, AutoCAD, McTrans Highway Capacity Software, Nvivo , Qualtrics Online Survey Software, Rhino 3D Modeling Software, Sketch up Pro, SPSS, and STATA.

The facilities in the Civic Square Building, where the Bloustein School resides, provide an ideal site for conducting research as well as holding conferences and seminars. These facilities include a 154-seat auditorium with advanced audio-visual technology for special events. There is a nine-screen video wall in the lobby of the building that is used for communications purposes, and can be used to display events going on in the auditorium. All of the classrooms and conference rooms in the building are equipped with advanced audio-visual technology and there are specialized studio classrooms that have the ability to project content from multiple systems to multiple screens. Lecture capture technology is available in the auditorium as well as five classrooms.

The Bloustein School community receives support from a staff of highly experienced and knowledgeable IT personnel. The staff consists of a director, a system administrator, a desktop support manager, and an instructional course designer.

To learn more about information technology at the Edward J. Bloustein School of Planning and Public Policy, please visit Information Technology Services.

Bloustein School Career Development (EJB-G)

BLOUSTEIN SCHOOL CAREER DEVELOPMENT

Graduate Programs

The Bloustein School provides career development support to graduate students and alumni of the Bloustein School, and welcomes Bloustein School undergraduates to many of the school's career events and programs.

Committed to helping students and alumni achieve their career goals, this office conducts individual and group career advising regarding career planning and decision making, job and internship search support, and much more. Additionally, the office hosts regularly scheduled career development programs and events for graduate students and alumni.

Career Development services include:

- *Career Advisement:* Dedicated career management advisors for the graduate Planning/Policy/Informatics and Health Administration programs provide individual and group support to meet students' needs, wherever they are in the career planning process.
- *Résumé, Cover Letter, and LinkedIn Profile Critiques:* Personal review including stylistic recommendations, content, informational changes, and incorporating a personal brand.
- *Weekly eNewsletters:* Disseminated weekly to all students with career-related updates, resources, jobs and internship postings, events, and a career tip of the week.
- *Career Development Programs:* Career advisors host and moderate numerous career related events featuring alumni and employer partner organizations including panel discussions, information sessions, recruiting and networking events, mock interviewing and résumé clinics, professional development workshops, and more.
- *Bloustein Alumni Connections:* Career advisors connect students with a support network of alumni willing, interested, and ready to assist students in advancing their career goals.
- *Bloustein School Job Boards:* Two job boards are offered, one for graduate Health Administration students and one for graduate Planning/Policy/Informatics students and alumni. These boards include job, internship, and fellowship opportunities from employers in the private, public, and not-for-profit sectors who are seeking Bloustein students and alumni.

For more information, contact the Office of Student and Academic Services or visit Graduate Student Career Development.

Undergraduate Programs

Along with the many career events and programs offered by the Bloustein School, the Rutgers University Office of Career Exploration and Success (CES) provides career support for all Bloustein undergraduates. This includes developing career plans, support for finding internships and full-time jobs, résumé and interviewing strategies, access to Handshake, connecting with Rutgers alumni, and much more. For more information see Career Exploration and Success.

Bloustein School undergraduate programs require formal internship courses. For additional information about the Bloustein School Internship Program, visit Undergraduate Internships.

Student Organizations (EJB-G)

STUDENT ORGANIZATIONS

The Edward J. Bloustein School provides students with a variety of opportunities to participate in governance through membership on committees and in the University Senate and through attendance at faculty meetings.

Student Organizations (EJB-G)

Bloustein Enthusiasts and Advocates for Transportation (BEAT)

Bloustein Enthusiasts and Advocates for Transportation (BEAT)

Bloustein Enthusiasts and Advocates for Transportation (BEAT) is a student organization seeking to provide a conversation space relating to all modes of transportation and about current-day transportation-related topics and issues and to promote and produce change through advocacy in the transportation industry, potentially through interactions with current industry professionals, policymakers, and the community.

Student Organizations (EJB-G)

Bloustein Graduate Student Association (BGSA)

Bloustein Graduate Student Association (BGSA)

The **Bloustein Graduate Student Association** (BGSA) seeks to encourage and facilitate open communication among students, faculty, staff, and administration; to represent and advocate for the interests of planning, policy, and health administration graduate students; and to promote and enact necessary improvements, so as to enhance the overall educational experience.

Student Organizations (EJB-G)

Bloustein Social Justice Committee (BSJC)

Bloustein Social Justice Committee (BSJC)

The **Bloustein Social Justice Committee** (BSJC) provides an independent space for students to embody, integrate, and act upon principles of social justice within the Edward J. Bloustein School of Planning and Public Policy and the broader community. We provide opportunities for Bloustein students to voice their ideas and concerns, organize formal and informal social justice activities for Bloustein students, staff, and faculty, facilitate collaborative engagement between Bloustein and the surrounding community, and support the work of aligned institutional initiatives. For more information or to get involved, email the group at blousteinsjc@gmail.com.

Student Organizations (EJB-G)

EJB | DESIGNS

EJB | D E S I G N S

EJB| D E S I G N S began as a group of planning students and faculty looking to improve their hand-drawing skills and digital graphic methods. A social organization based out of the Bloustein School, the group encourages networking with professionals, faculty, and students interested in learning and teaching digital and hand-drawing techniques. Through practice and social networking its members prepare for the planning and urban design profession.

In addition, the group was established as the support system and resource center where students can seek help, challenge or discover urban design issues, learn professional development skills, and prepare to enter the professional workforce. It is open to both undergraduate and graduate students.

Student Organizations (EJB-G)

International Development Interest Group (IDIG)

International Development Interest Group (IDIG)

The **International Development Interest Group** (IDIG) aims to generate interest in urban planning and policy within the international sphere, with a special focus on engaging in topics around improving the standards of life in the developing world. IDIG functions as a forum for the exchange of ideas and information, as well as a platform for collaborative work around various themes and geographies of relevance in planning and policy work in low and middle-income countries.

Student Organizations (EJB-G)

Public Informatics Student Group (PISG)

Public Informatics Student Group (PISG)

The **Public Informatics Student Group** (PISG) is an interdisciplinary organization for students interested in topics that bridge the gaps between information technology and public service. The organization is open to undergraduate and graduate students with an interest in discovering how governments, education, healthcare, and social services are learning to be more agile in the age of Big Data, Artificial Intelligence, and the Internet of Things.

Student Organizations (EJB-G)

Rutgers Graduate Society of Healthcare Leaders (RUGSHL)

Rutgers Graduate Society of Healthcare Leaders (RUGSHL)

The **Rutgers Graduate Society of Healthcare Leaders** (RUGSHL) is a professional student organization for graduate students who are currently working or are interested in the field of health care administration. Its focus is on helping

turn students into future health care leaders through academic and social events at Rutgers. It seeks to bring together like-minded students to help them achieve their goals of being future leaders in the health care industry, through networking, academics, and community outreach.

Student Organizations (EJB-G)

Women's Leadership Coalition (WLC)

Women's Leadership Coalition (WLC)

The **Women's Leadership Coalition** (WLC)'s mission is to inclusively bring graduate students together from a variety of disciplines and backgrounds and promote personal, academic, and professional development. We strive to foster networking, collaboration, and career-driven educational opportunities for women in graduate programs across Rutgers University. Though the organization is geared toward female graduate students, any Rutgers student or faculty member with interest in the organization's mission may become a member. Members must attend at least one meeting or event per semester to retain membership. The Women's Leadership Coalition holds an annual one-day Women's Leadership Conference during the spring semester, aimed at empowering women leaders with hands-on workshops, interactive panels, and thought-provoking keynote addresses.

Bloustein School Alumni (EJB-G)

BLOUSTEIN SCHOOL ALUMNI

Alumni of the Bloustein School are distinguished leaders who skillfully solve real-world issues and produce results that matter.

The Bloustein School endeavors to forge a network that connects, engages, and involves alumni with the Bloustein School, and with one another, in support of the school's mission and goals. The school strives to link alumni from all majors and degree programs in order to strengthen the community of alumni; provide and maintain channels of communication among alumni, faculty, staff, and students; offer a system of contacts for Bloustein students as they embark on their search for internships and employment; uphold, support, and endorse the reputation of the school; assist in identifying prospective students; support the staff and faculty in the recruitment and admissions process; and serve as a resource promoting the events and activities sponsored by the school.

Bloustein School alumni strive to accomplish these goals through regional and affinity groups. These groups preserve the school's network as they build local ties, share social or professional resources, stay current with industry trends, and represent Bloustein in their region.

The school maintains a Slack board to stay actively engaged with the alumni community. This flexible message board allows Bloustein alumni from different disciplines and interests to read and post in channels that are meaningful to them.

In conjunction with its alumni, the Bloustein School hosts an Alumni Awards Celebration to recognize alumni, in various stages of their careers, who have made exemplary contributions to their professions and communities while demonstrating support of the school.

Doctoral Program (EJB-G)

DOCTORAL PROGRAM

About the Doctoral Program

Doctor of Philosophy (Ph.D) in Planning and Public Policy

Doctoral Program Course Listing

About the Doctoral Program (EJB-G)

ABOUT THE DOCTORAL PROGRAM

Since its first graduate in 1971, the doctoral program in planning and public policy has educated innovative scholars who wish to apply analytical skills to pressing concerns, seek new ways of thinking to anticipate an as-yet-unknown future, and hope to create a future that will improve on, rather than simply replicate, the past. The program prepares students for careers in university teaching and research, advanced policy research in the public and nonprofit sectors, and basic and applied research in the private sector.

Diverse disciplines--reflected in the backgrounds of incoming students, the academic and professional pursuits of the faculty, and the positions filled by program graduates--exemplify the breadth and flexibility of the doctoral program in urban planning and public policy at Rutgers. This intentional diversity reflects and supports the mission of the Ph.D. program: to pursue a variety of approaches in exploring the critical questions of planning and public policy and in preparing innovative and workable responses to those central questions.

Faculty members in the program hold doctorates in a wide range of fields including planning, political science, geography, economics, and public health, to name a few. In addition, some courses are taught by adjunct faculty who are practicing professionals and by research faculty within the school. Doctoral students find myriad opportunities for involvement in research through the many centers and institutes at the Edward J. Bloustein School of Planning and Public Policy.

Now in its fifth decade, the program has and will continue to graduate leading academics, researchers, practitioners, and administrators in planning and public policy.

Detailed information on the program is available at Ph.D. Planning and Public Policy.

Doctor of Philosophy (Ph.D.) in Planning and Public Policy (EJB-G)

DOCTOR OF PHILOSOPHY (PH.D.) IN PLANNING AND PUBLIC POLICY

The Doctor of Philosophy (Ph.D.) degree in planning and public policy, offered through the Rutgers School of Graduate Studies, is an advanced scholarly degree appropriate for students seeking a career in university teaching and research, advanced policy research in the public or nonprofit sectors, and basic or applied research in the private sector.

Admission

Admission

Admission to the Ph.D. program is highly competitive and requires a formal application with supporting documents, a full résumé, and evidence of research ability. All applications are reviewed by the faculty of the doctoral program. In most cases, only applicants who have already completed a master's degree or its equivalent are considered for admission. In rare instances, exceptional students may be considered after they receive their bachelor's degree or, for students enrolled in Edward J. Bloustein School of Planning and Public Policy master's programs, after completion of 12 graduate credits. Information on the application process is available on the Rutgers School of Graduate Studies website and the graduate admissions website.

The number of students admitted to doctoral study is dependent upon

1. the number of applicants who display superior qualifications and ability and
2. the faculty's capacity to provide high-quality supervision in the students' areas of interest.

Normally, three to six doctoral students enter the program each year, selected from about 80 to 100 applicants. Applications are carefully reviewed by the Ph.D. program director and faculty who best match an applicant's research interests. As admission is highly competitive, students are urged to submit their application by no later than December 15. Applicants are notified of the admission decision between mid-February and early March.

Financial support for five years of doctoral study is available in the form of fellowships, teaching assistantships, and research assistantships. Many doctoral students obtain additional funding through appointment as adjunct instructors, in hourly work at research centers or on faculty research projects, and from other sources. Students should exercise initiative in contacting center directors and/or individual faculty members regarding opportunities for hourly work on research related to their interests.

Bloustein School doctoral students have received a wide variety of awards and fellowships. Program graduates have obtained senior positions in universities, research centers, governments, nonprofit organizations, and the private sector.

Coursework Requirements and Transfer of Credits

Coursework Requirements and Transfer of Credits

Students holding a master's degree must complete a minimum of 48 credits of coursework and an additional 24 credits of thesis research, yielding the School of Graduate Studies' minimum of 72 credits required for the doctoral degree.

Students in the doctoral program are **required** to take the following **six classes:**

COURSE REQUIREMENTS	CREDITS
Theory: 16:762:624 Planning, Public Policy, and Social Theory One additional Theory elective	 3 3
Methods: 34:833:628 Advanced Qualitative Methods 34:970:630 Discrete Choice Methods One additional advanced methods or research design course related to the student's dissertation research, subject to approval by the doctoral program director ***Recommended methods courses offered at the Bloustein School include:*** *34:833:635 Survey Research* *34:833:632 Cost Benefit Analysis* *34:970:591 Introduction to GIS* *34:970:592 Topics in GIS* *34:970:594 Program Evaluation* *These satisfy the additional methods requirement, but students are encouraged to take others offered throughout the university*	 3 3 3
Research Workshop: 16:762:626 Advanced Scholarly Research	3
General elective coursework	30
Research Credits (min. 24)	24
Total Ph.D. Credit Requirement	**72**

Students holding a master’s degree must complete a minimum of 48 credits of coursework and an additional 24 credits of thesis research, yielding the graduate school minimum requirement of 72 doctoral credits. Up to 24 of the 48 coursework credits may be transfer credits (subject to approval of the doctoral program director); however, these must not exceed half the credits applied toward the master’s degree.

Students who enter the program without a master's degree must complete a minimum of 63 credits (calculated as 45 credits for a master's degree, less 6 credits for the master's thesis, plus the 24 additional didactic credits required of a student already holding a master's degree) plus an additional 24 credits of thesis research (minimum of 87 credits).

First-year doctoral students are required to attend a doctoral seminar. Attendance at this seminar is expected for all doctoral students in the program.

All doctoral students should present a formal paper on their research at the Krueckeberg Doctoral Conference held annually at the Bloustein School. .

Doctor of Philosophy (Ph.D.) in Planning and Public Policy (EJB-G)

Evaluation of Doctoral Students

Evaluation of Doctoral Students

Student progress is evaluated by the doctoral program faculty at the end of each semester. Failure to maintain a semester average of 3.5 or a cumulative grade-point average of 3.5 is cause for a student to be considered for dismissal. In the event of insufficient progress toward the degree, a conference will be called which will include four persons: the doctoral program director, a member of the faculty of the doctoral program (usually the student's adviser), the coordinator of student and academic services, and the student. The student will be frankly told of his or her strengths and weaknesses and the opinion of the faculty and staff present as to his or her prospects for completing the doctoral program. The doctoral program director will provide the student with a written statement of the assessment. If a student wishes to continue after being advised of his or her limitations, the doctoral program director has the right to prescribe courses or other remedial action for the student to take in the following semester. Failure to demonstrate an ability to meet the criteria for continuation in the next semester is just cause for dismissal.

Doctor of Philosophy (Ph.D.) in Planning and Public Policy (EJB-G)

Incomplete Grades

Incomplete Grades

A grade of Incomplete (IN) is given only when circumstances beyond the control of the student merit granting extra time for completing course requirements. Students must apply for an IN grade in writing. The application must include a statement of the circumstances meriting the IN grade and a contract that defines the nature of the work missed and the date it is due. The contract must be signed and dated by the student and the faculty member before the IN grade is assigned. Should a student require an extension of the contract, he or she must obtain permission for the extension from the doctoral program director. After one year, the IN grade automatically converts to a PIN (Permanent Incomplete). When this happens, a student will not receive a grade or credit for the course in question. Two IN grades will be allowed to stand for one semester only. If at least one is not converted to a final grade, the student will not be allowed to register for the following semester. Students who receive more than one IN within the first 12 credits of coursework in the program will be given a written warning and must meet with the review committee to discuss the problem. (See Evaluation of Doctoral Students)

Doctor of Philosophy (Ph.D.) in Planning and Public Policy (EJB-G)

Student Advising

Student Advising

The student may select his or her own adviser among members and associate members of the Bloustein School graduate faculty, upon mutual agreement. In addition, students will meet periodically with the director of the doctoral program, who may suggest additional coursework or other preparation for program completion.

Doctor of Philosophy (Ph.D.) in Planning and Public Policy (EJB-G)

Preparing for the Qualifying Examination

Preparing for the Qualifying Examination

At least one semester (preferably more) before students present themselves for the qualifying examination, they must select (in consultation with their advisers and approval of the doctoral program director) an examination committee of four members. This committee must include one faculty member specializing in research methods, another Bloustein School faculty member specializing in theory, and two Bloustein School members from the student's special examination areas (see The Qualifying Examination). The student, in consultation with his or her adviser, may change the composition of the committee, subject to approval by the doctoral program director. The exam committee will come to a mutual agreement with the student as to the material to be covered by the qualifying examination.

Doctor of Philosophy (Ph.D.) in Planning and Public Policy (EJB-G)

Selection of a Dissertation Chair

Selection of a Dissertation Chair

The student may select a dissertation chair among members of the Bloustein School graduate faculty, who may or may not be the student's faculty adviser. Before presenting himself or herself for the qualifying examination, the student must procure a letter from a member of the faculty of the doctoral program expressing willingness to chair and supervise the student's dissertation. This letter is to be submitted to the director of the doctoral program and the Bloustein School's Office of Student and Academic Services.

Doctor of Philosophy (Ph.D.) in Planning and Public Policy (EJB-G)

Dissertation Proposal

Dissertation Proposal

Following successful completion of the qualifying examination, the student prepares a thesis proposal in consultation with his or her dissertation chair (see Selection of a Dissertation Chair). The proposal shall be formally

presented for approval at a public meeting of the dissertation committee within no more than four months of passing the qualifying examination. Immediately following the proposal presentation, the student's dissertation chair, in consultation with the rest of the student's dissertation committee, will provide the student with a written evaluation of his or her proposal, providing specific suggestions on how the student can improve his or her dissertation research.

Doctor of Philosophy (Ph.D.) in Planning and Public Policy (EJB-G)

Doctoral Dissertation

Doctoral Dissertation

Doctoral (Ph.D.) dissertations should make an original contribution to planning and public policy through the rigorous analytical examination of theory and evidence supporting a significant argument or testing a relevant hypothesis. The dissertation may draw from a broad array of quantitative and/or qualitative methods reflecting the multidisciplinary nature of the field.

Doctor of Philosophy (Ph.D.) in Planning and Public Policy (EJB-G)

Dissertation Review and Defense

Dissertation Review and Defense

Upon completion of the first draft of a dissertation, and with the approval of the dissertation committee chair, the manuscript shall be circulated to the members of the dissertation committee for review. The student's dissertation committee chair will make the decision as to when the dissertation is ready for defense.

At that time, the dissertation shall be publicly presented and defended in an open public forum to be held at the Bloustein School. Scheduling information regarding dissertation defense must be submitted to the Office of Student and Academic Services no less than two weeks prior.

The dissertation shall be defended before the dissertation committee at a time and place approved by the committee members and the director of the doctoral program.

A final copy of the successfully defended thesis will be submitted to the School of Graduate Studies, and this shall complete the doctoral process.

Doctor of Philosophy (Ph.D.) in Planning and Public Policy (EJB-G)

The Qualifying Examination

The Qualifying Examination

The qualifying examination comprises written and oral components in the following areas:

1. Theory: of and in planning and public policy.

2. Methods: including research design, qualitative and quantitative analysis, and advanced methods in the student's field(s) of specialization.

3. Major field: a primary topical specialization within planning and public policy, requiring broad familiarity with substantive literature that is central to the student's anticipated dissertation research.

4. Minor field: a second topical or substantive specialization closely related to the student's anticipated dissertation research and defined so that the subject matter does not overlap with the major field (above); or a related field other than planning and public policy (e.g., civil engineering, computer science, economics, geography, political science, sociology, or another field) that the student can show is relevant to his or her degree program. Selection of primary and secondary specializations comprising the major and minor field examinations is the responsibility of the student together with his or her examiner, in consultation with and approved by the doctoral program director (**see Preparation for the Qualifying Examination**).

5. The oral component of the qualifying examination will be scheduled by the student in consultation with all members of his or her examination committee, upon satisfactory completion of the written component(s).

Students may take the written and oral qualifying examination in methods at any time after completing the required coursework in methods (**see Coursework Requirements**). To take qualifying examinations in theory, major field, and minor field, students must have completed 48 coursework credits (including transfer of credits), have a minimum GPA of 3.5, and have no outstanding Incomplete grades.

Should the student fail any part of the examination, the examination committee will advise the student to pursue one or more of the following options: (1) take additional courses or submit additional written and/or oral work; (2) retake part(s) or all of the exam at a specified time; (3) resign from the doctoral program.

Passing the qualifying examination constitutes formal admission to candidacy for the Ph.D. degree.

Dissertation Committee

Dissertation Committee

Upon approval of the thesis topic (see Dissertation Proposal), a candidate, in consultation with the chair of the thesis committee and the doctoral program director, shall form a dissertation committee of four faculty members, including one member from outside of the Bloustein School. The members need not be the same as the comprehensive examination committee. Once the committee is constituted, the student should write a memo to the doctoral program director specifying the committee membership. This memo must be approved by both the faculty member who is denoted as chair of that thesis committee and the doctoral program director, and will then be placed in the student's file.

Doctoral Program Course Listing (EJB-G)

DOCTORAL PROGRAM COURSE LISTING

Rutgers School of Graduate Studies

16:762:624 ***Planning, Public Policy, and Social Theory (3)***
Contemporary social theory applied to planning and policy; uses and abuses of theory in the process of knowledge creation; theoretical perspectives on power, knowledge, states and markets, democracy, ethics, and social justice.
Required course for Ph.D. program.

16:762:626 ***Advanced Scholarly Research (3)***
Doctoral-level study of scholarly exposition, peer research review, and the preparation of research proposals. Students prepare proposals encompassing doctoral-level synthesis of theory and analytic methods.
Prerequisite: Permission of instructor. Required course for Ph.D. program.

16:762:701,702 ***Research in Planning and Policy (BA, BA)***
Required research credits.

Edward J. Bloustein School of Planning and Public Policy

34:833:628 ***Advanced Qualitative Methods (3)***
Students apply techniques of qualitative research, including interviewing, ethnography, and phenomenology, to help them gain an understanding of which techniques are appropriate for what specific research needs.
Required course for Ph.D. program.

34:970:630 ***Discrete Choice Methods (3)***
This course begins with a review of linear regression and focuses on categorical dependent variables. Methods include linear probability, logit, probit, multinomial, and conditional logit models.
Required course for Ph.D. program.

Health Administration Program (EJB-G)

HEALTH ADMINISTRATION PROGRAM

About the Health Administration Program

Doctor of Health Administration (D.H.A.)

Doctor of Health Administration (D.H.A) Course Listing

Health Administration Degree Options

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About the Health Administration Program (EJB-G)

ABOUT THE HEALTH ADMINISTRATION PROGRAM

At the graduate level, the Bloustein School offers a Master of Health Administration (M.H.A.) and a Doctorate of Health Administration (D.H.A.)

The M.H.A. degree program prepares graduates to enter, or grow, in healthcare management careers with a comprehensive skill set and a commitment to the highest levels of professionalism. Our competency model emphasizes professionalism and leadership, an understanding of health and health care delivery, operations and financial management, communication skills, and strategic planning, all essential to success in the healthcare sector.

The D.H.A.program is designed to facilitate mid-level and senior health care professionals' clinical and/or administrative experiences into opportunities to teach, shape public policy, and lead complex organizations. Successful applicants must possess relevant master's or post-baccalaureate professional degrees and significant practical experience in the field.

Doctor of Health Administration (D.H.A.) (EJB-G)

Doctor of Health Administration

The Doctor of Health Administration (D.H.A.) program is designed to facilitate mid-level and senior health care professionals' clinical and/or administrative experiences into opportunities to teach, shape public policy, and lead complex organizations. Successful applicants must possess relevant master's or post-baccalaureate professional degrees and significant practical experience in the field.

The D.H.A. is a 66-credit-hour curriculum with new cohorts beginning each fall. Students with a Master of Health Administration (M.H.A.) or any other relevant graduate degree may be permitted to transfer up to 24 credits towards the D.H.A. degree. The program utilizes a hybrid format, combining online and in-person instruction. D.H.A. students take a core curriculum focusing on advanced leadership in healthcare, professional development, finance for health administration, health systems operations, and applied quantitative and qualitative research methods.

Doctor of Health Administration (D.H.A.) (EJB-G)

Admission Requirements

Admission Requirements

Applicants are recommended to possess the following:

- At least three years of health care experience, utilizing a master's or post-baccalaureate degree, is required. This may include clinical care, administration, management, or another health care-related field. Students from a wide variety of academic backgrounds may apply.
- A post-baccalaureate degree or master's degree from an accredited institution.

After the initial screening, final candidates may be interviewed by the DHA Admissions Committee.

Doctor of Health Administration (D.H.A.) (EJB-G)

Coursework Requirements

Coursework Requirements

The DHA requires a minimum of 66 credit hours organized as follows:

- 45 credit hours of didactic coursework

- 21 credit hours of Doctoral Project credit hours (minimum requirement)

Courses

- 34:501:701 Principles of Health Administration (3)
- 34:501:702 Research Methods in Healthcare Administration (3)
- 34:501:703 Finance for Health Administration (3)
- 34:501:704 Health Systems Operations (3)
- 34:501: 707 Basic Quantitative Methods (3)
- 34:833:525 Applied Multivariate Methods (3)
- 34:501:705 Advanced Leadership Development (3)
- 34:501:706 Agility, Resiliency & Sustainability in Healthcare Delivery (3)
- 34:833:628 Advanced Qualitative Methods (3)
- 34:501:708 Advanced Scholarly Research for Healthcare Administration (3)
- Elective Courses (15)
- Doctoral Project (21)

Total Credit Hours 66

Doctor of Health Administration (D.H.A.) (EJB-G)

Comprehensive Examination and Doctoral Project Requirements

Comprehensive Examination and Doctoral Project Requirements

The Comprehensive Examination is a pivotal milestone in the DHA program and integrates the student's DHA project proposal and his/her knowledge of the core/methods coursework.

DHA Comprehensive Examination

Each student is required to form a comprehensive examination and doctoral project committee consisting of at least three members.

- A minimum of three faculty members from the Edward J. Bloustein School of Planning and Public Policy
- One faculty member will serve as the committee chair
- All committee members must hold a doctoral degree

This committee serves as the student's advising group throughout the doctoral project. The committee is responsible for regularly reviewing research progress and approving the completed DHA project before the student is eligible for defense and program completion.

Purpose of the Comprehensive Examination

The Comprehensive Exam assesses the doctoral student's:

- Competence in health services research and administration course work
- Readiness to undertake independent research
- Integration of the DHA project proposal with core and methods coursework

Components of the Doctoral Project

The DHA project serves as a culmination of the student's academic and professional expertise, bridging research with real-world applications in health administration.

- DHA Project Proposal
- Comprehensive Examination
- Oral Examination (Proposal Defense)

Evaluation Criteria for the DHA Proposal

The DHA project should include the following:

- Originality – Introduce new knowledge or innovative approaches in health administration.
- Quality – Demonstrate rigorous methodological planning and a strong theoretical foundation.
- Integration with Coursework – Effectively apply concepts and methods from core coursework.
- Feasibility – Ensure the research is achievable within the DHA students and program's resources and timeframe.

Final DHA Project Defense

As students near completion of their DHA project, they must submit draft sections of their work to their doctoral project committee chair.

- Committee Review: Once approved by the committee chair, these sections should be submitted to other committee members.
- Feedback Process: Committee members will provide written comments on the drafts within a reasonable timeframe.
- Final Defense: After completing the DHA project, candidates must defend their work before the committee to demonstrate its validity, significance, and contribution to the field.

More information and specific admission/application instructions may be found on the Bloustein School website.

Doctor of Health Administration (D.H.A) Course Listing (EJB-G)

Doctor of Health Administration (D.H.A) Course Listing

The Doctor of Health Administration degree is a 66 credit-hour curriculum. D.H.A. students take a core curriculum focusing on advanced leadership in healthcare, professional development, finance for health administration, health systems operations, and applied quantitative and qualitative research methods.

34:501:510 Human Resource Policy and Practice in Health Care (3)
ELECTIVE
The course analyzes core human resource functions like recruitment and retention, diversity, performance management, compensation, and workforce development in the health care environment, while aligning human resources strategy to the business strategy's goals.

34:501:512 Health Care Economics (3)
ELECTIVE
This course will analyze the supply and demand theory while examining profitability, cost analysis, and the economic factors that influence health care delivery at the micro and macro level.

34:501:515 Financial Accounting for Managers (3)
ELECTIVE
This course helps students to apply major concepts in health care finance to align operational functions with the financial objectives within an organization.

34:501:520 Community Assessment for Health Administration (3)
ELECTIVE
This course analyzes the complex economic, environmental, social, and behavioral causes affecting the health of populations. It explores how health care organizations plan and evaluate the impact of their participation in community health improvement programs.

34:501:525 Artificial Intelligence Challenges in Health Administration (3)
ELECTIVE
This course presents an overview of artificial intelligence challenges in healthcare management. It is a comprehensive and inclusive review of a wide array of health care management issues and opportunities in the evolving field of artificial intelligence.

34:501:530 Data Analytics in Health Care (3)
ELECTIVE
This course will allow students an opportunity to analyze and interpret hospital and public data sets for use in strategic decisions-making, trend analysis, and business presentations. Advanced Excel and other tools will be used to mine data sets, identify patterns, and create data summaries.

34:501:533 Lean Six Sigma Green Belt (3)
ELECTIVE
This course is designed to prepare students for the Lean Six Sigma Green Belt certifying exam under the Council for Six Sigma Certification requirements.
Prerequisites: 34:501:501 and 34:501:515

34:501:534 Health Care Six Sigma Black Belt (3)
ELECTIVE
This course is designed to prepare students for the Lean Six Sigma Black Belt certifying exam under the Council for Six Sigma Certification requirements.

34:501:540 Intro to Pharma, Biotech, and the Medical Technology Industry (3)
ELECTIVE
This course provides a framework for understanding the process of product development from conception to commercialization for students interested in health care administration, government/non-profit health agencies, and health-related business.

34:501:542 Long Term Care Management (3)
ELECTIVE
This course will acquaint students with the dynamic and increasingly important field of long-term care. The course provides a comprehensive overview of programs, policies, finances and services, and examines the issues, challenges and dilemmas confronting long term care management.

34:501:554 Marketing for Health Care Organizations (3)
ELECTIVE
This course provides a strong foundation in marketing principles, tools, and techniques to develop a strategically designed marketing plan for health care organizations.

34:501:556 Health Care Ethics and Law (3)
ELECTIVE
This course provides a systematic analysis of contemporary ethical and legal issues in health care. During this interdisciplinary course, students will be required to differentiate ethical issues from other types of issues; demonstrate sound moral reasoning; formulate and defend an ethical position; and summarize the historical, legal, and healthcare policy dimensions of current health care issues of ethical concern.

34:501:565 Information Systems for Health Care (3)
ELECTIVE
An exploration of the types and uses of information systems; their management and strategic application; related privacy policies and their transformative role in health care delivery.

34:501:572 Managing People and Organizations (3)
ELECTIVE
This course is an introduction to organizational theory and concepts of management. It explores approaches that promote and hinder effective management in public and nonprofit organizations.Credit not given for both this course and 34:833:681.

34:501:575 Understanding Health Care Payer Systems (3)
ELECTIVE
This course provides a fundamental understanding of the three predominant forms of health insurance coverage in the United States (Medicare, Medicaid, and commercial).

34:501:587 Healthcare Administration Consulting) (3)
ELECTIVE
This course will allow students to work on real-world healthcare cases involving strategic, organizational, financial, and operational challenges. In this course, 3-4 students will be assigned as a part of the team to solve a healthcare case (clinical, financial, and growth strategy) and provide recommendations. You will conduct environmental scans, market analysis, review regulatory policies and conduct client interviews (if appropriate), final projections, and recommendations.

34:501:588 Corporate Compliance in Health Administration (3)
ELECTIVE
This course provides an overview of healthcare compliance from conceptual, substantive, and operational perspectives. Students will learn the seven elements of an effective healthcare corporate compliance program. Students will explore the need for compliance programs within healthcare organizations.

34:501:701 Principles of Health Administration (3)

CORE COURSE

This course covers current challenges faced by the U.S. health care delivery system and how health policy has sought to address these challenges. Consideration of health care concerns associated with population health and public health, including social determinants and how the behavior of individuals and groups influence health

34:501:702 Research Methods in Healthcare Administration (3)

CORE COURSE

The purpose of this doctoral seminar is to provide an overview of research design and research methods for the Doctor of Health Administration students. This course provides a comprehensive introduction to research processes, including conceptualization of a research study, research design of methods and measures, data collection, data analysis, and guidelines for writing and presenting results in health services research/health administration.

34:501:707 Basic Quantitative Methods (3)

CORE COURSE

Introduction to applied statistics. Includes descriptive and inferential statistics, regression and correlation analysis, and computer-based analytic tools for planning and policy analysis

34:501:703 Finance for Health Administration (3)

CORE COURSE

This course reviews financial management tools for various healthcare delivery settings to allow students to interpret financial information, assess financial department processes, and explore health leaders' financial management responsibilities.

34:501:704 Health Systems Operations (3)

CORE COURSE

This course provides a macro and micro view of healthcare operations, focusing on critical management theory, fundamental economic principles, employee management, and the art of negotiations.

34:501:705 Advanced Leadership Development (3)

CORE COURSE

This course takes an in-depth look at leadership styles, traits, and strategies using critical thinking and complex analysis that addresses multifaceted healthcare case studies involving best practices and change management.

34:501:706 Agility, Resiliency & Sustainability in Healthcare Delivery (3)

CORE COURSE

Students will characterize and analyze the emerging healthcare trends and incorporate agile and resilient managerial practices to build a more sustainable healthcare ecosystem.

34:501:708 Advanced Scholarly Research for Health Administration (3)

CORE COURSE

Doctoral-level study of scholarly exposition, peer research review, and the preparation of research proposals. Students prepare proposals encompassing doctoral-level synthesis of theory and analytic methods.

34:833:525 Applied Multivariate Methods (3)
CORE COURSE
Covers applied skills in data management and advanced multivariate analysis, with a focus on multiple linear regression, factor analysis, and logistic regression.

34:833:628 Advanced Qualitative Methods (3)
CORE COURSE
Students apply techniques of qualitative research, including interviewing, ethnography, and phenomenology, to help them gain an understanding of which techniques are appropriate for what specific research needs.

Master of Health Administration (M.H.A.) (EJB-G)

MASTER OF HEALTH ADMINISTRATION (M.H.A.) DEGREE

The Bloustein School's Master of Health Administration (M.H.A.) degree program prepares graduates to enter, or grow, in healthcare management careers with a comprehensive skill set and a commitment to the highest levels of professionalism. Our competency model emphasizes professionalism and leadership, an understanding of health and health care delivery, operations and financial management, communication skills, and strategic planning, all essential to success in the healthcare sector.

Rutgers' Master of Health Administration (M.H.A.) degree program is tailored for students who have completed a bachelor's degree and who work, or plan to work, in the health care industry. The M.H.A. is also suitable for those seeking to make a career change, or for the health practice professional moving into a management position.

Participants complete the 45-credit program at their own pace, full or part time. Classes are conveniently scheduled Monday through Thursday evenings, with a face-to-face, hybrid, or synchronous online format during each of the fall, spring, and summer semesters

Requirements for the Master of Health Administration, and the complete list of Master of Health Administration courses and electives offered, may be found at the Bloustein School website.

CURRICULUM

The Rutgers MHA curriculum meets the **Commission on Accreditation of Healthcare Management Education** (CAHME) standards.

Core Courses

- 34:501:501 Principles of Health Administration (3)*
- 34:501:510 Human Resources Policy and Practice in Health Care Management (3)
- 34:501:515 Financial Accounting for Managers (3)*
- 34:501:520 Community Assessment for Health Administration (3)
- 34:501:533 Lean 6 Sigma Green Belt (3)
- 34:501:554 Marketing for Health Care Organizations (3)
- 34:501:556 Health Care Ethics and Law (3)
- 34:501:563 Health Systems Operations (3)
- 34:501:565 Information Systems for Health Care (3)

- 34:501:571 Finance for Health Administration (3)
- 34:501:590 Leadership and Professional Development (3)
- 34:501:595 Professional Practicum with Seminar (6)**

501:501 and 501:515 must be taken in the first semester in which students are enrolled in the program.

***Professional Practicum with Seminar is a capstone field project which can be completed at a healthcare related work environment or as a field internship.*

Electives

The six (6) credits of electives, chosen from a broad range of courses, allows the program to provide a degree of customization for each student's interest and need while doing so within accreditation requirements.

Current "automatically approved" electives include:

- 34:501:512 Health Care Economics (3)
- 34:501:516 Directed Study (3)
- 34:501:525 Artificial Intelligence Challenges in Healthcare Management (3)
- 34:501:530 Data Analytics in Health Care (3)
- 34:501:534 Lean 6 Sigma Black Belt (3)
- 34:501:540 Intro to Pharma, Biotech, and the Medical Technology Industry (3)
- 34:501:542 Long Term Care Management (3)
- 34:501:572 Managing People and Organizations (3)
- 34:501:575 Understanding Health Care Payer Systems (3)
- 34:501:587 Seminar in Health Administration (Health Consulting) (3)
- 34:501:588 Corporate Compliance in Healthcare (3)

Master of Health Administration Academic Standing and Procedures (EJB-G)

MASTER OF HEALTH ADMINISTRATION ACADEMIC STANDING AND PROCEDURES

Successful completion of the Master of Health Administration (M.H.A.) degree program requires satisfactory completion of 45 approved core and elective credits beyond the baccalaureate.

Grade-Point Average Requirement

Students enrolled in the Rutgers M.H.A. program must achieve a final Grade Point Average of 3.000 or better in order to be awarded the M.H.A. degree.

Health Administration Course Listing (EJB-G)

HEALTH ADMINISTRATION COURSE LISTING

This list includes the required core courses and electives for the Master of Health Administration (501) offered at the Bloustein School as of September 1, 2025. Elective courses are taught by multiple instructors and may not be offered every semester.

Requirements for the Master of Health Administration, and the complete list of Master of Health Administration courses and electives offered, may be found at the Bloustein School website.

Students should refer to WebReg for information about special topics courses.

34:501:501 ***Principles of Health Administration (3)***
CORE COURSE
This course covers current challenges faced by the U.S. health care delivery system and how health policy has sought to address these challenges. Consideration of health care concerns associated with population health and public health, including social determinants and how behavior of individuals and groups influence health.

34:501:510 ***Human Resources Policy and Practice in Health Care Management (3)***
CORE COURSE
The course analyzes core human resource functions like recruitment and retention, diversity, performance management, compensation, and workforce development in the health care environment, while aligning human resources strategy to the business strategy's goals.

34:501:512 ***Health Care Economics (3)***
ELECTIVE
This course will analyze the supply and demand theory while examining profitability, cost analysis, and the economic factors that influence health care delivery at the micro and macro level.

34:501:515 ***Financial Accounting for Managers (3)***
CORE COURSE
This course helps students to apply major concepts in health care finance to align operational functions with the financial objectives within an organization.

34:501:520 ***Community Assessment for Health Administration (3)***
CORE COURSE
This course analyzes the complex economic, environmental, social, and behavioral causes affecting the health of populations. It explores how health care organizations plan and evaluate the impact of their participation in community health improvement programs.

34:501:525 ***Artificial Intelligence Challenges in Health Administration (3)***
ELECTIVE
This course presents an overview of artificial intelligence challenges in healthcare management. It is a comprehensive and inclusive review of a wide array of health care management issues and opportunities in the evolving field of artificial intelligence.

34:501:530 ***Section, Data Analytics in Health Care (3)***
ELECTIVE
This course will allow students an opportunity to analyze and interpret hospital and public data sets for use in strategic decisions-making, trend analysis, and business presentations. Advanced Excel and other tools will be used to mine data sets, identify patterns, and create data summaries.

34:501:533 ***Lean Six Sigma Green Belt (3)***
CORE COURSE
This course is designed to prepare students for the Lean Six Sigma Green Belt certifying exam under the Council for Six Sigma Certification requirements.
Prerequisites: 34:501:501 and 34:501:515

34:501:534 ***Health Care Six Sigma Black Belt (3)***
ELECTIVE
This course is designed to prepare students for the Lean Six Sigma Black Belt certifying exam under the Council for Six Sigma Certification requirements.

34:501:540 ***Intro to Pharma, Biotech, and the Medical Technology Industry (3)***
ELECTIVE
This course provides a framework for understanding the process of product development from conception to commercialization for students interested in health care administration, government/non-profit health agencies, and health-related business.

34:501:542 ***Long Term Care Management (3)***
ELECTIVE
This course will acquaint students with the dynamic and increasingly important field of long-term care. The course provides a comprehensive overview of programs, policies, finances and services, and examines the issues, challenges and dilemmas confronting long term care management.

34:501:554 ***Marketing for Health Care Organizations (3)***
CORE COURSE
This course provides a strong foundation in marketing principles, tools, and techniques to develop a strategically designed marketing plan for health care organizations.
Prerequisites: 34:501:501 and 34:501:515

34:501:556 ***Health Care Ethics and Law (3)***
CORE COURSE
This course provides a systematic analysis of contemporary ethical and legal issues in health care. During this interdisciplinary course, students will be required to differentiate ethical issues from other types of issues; demonstrate sound moral reasoning; formulate and defend an ethical position; and summarize the historical, legal, and healthcare policy dimensions of current health care issues of ethical concern.
Prerequisites: 34:501:501 and 34:501:515

34:501:563 ***Health Systems Operations (3)***
CORE COURSE
This course provides a macro and micro view of health care operations with a focus on critical management theory, fundamental economic principles, employee management, and the art of negotiations.
Prerequisites: 34:501:501 and 34:501:515.

34:501:565 ***Information Systems for Health Care (3)***
CORE COURSE An exploration of the types and uses of information systems; their management and strategic application; related privacy policies and their transformative role in health care delivery.
Prerequisites: 34:501:501 and 34:501:515

34:501:571 ***Finance for Health Administration (3)***
CORE COURSE
This course is a review of financial management tools for various health care delivery settings to allow students to interpret financial information, assess the processes performed by financial departments, and explore the financial management responsibilities of health leaders.
Prerequisites: 34:501:501 and 34:501:515

34:501:572 ***Managing People and Organizations (3)***
ELECTIVE
This course is an introduction to organizational theory and concepts of management. It explores approaches that promote and hinder effective management in public and nonprofit organizations. **Credit not given for both this course and 34:833:681.**

34:501:575 ***Understanding Health Care Payer Systems (3)***
ELECTIVE
This course provides a fundamental understanding of the three predominant forms of health insurance coverage in the United States (Medicare, Medicaid, and commercial).

34:501:588 ***Corporate Compliance in Health Administration (3)***
ELECTIVE
This course provides an overview of healthcare compliance from conceptual, substantive, and operational perspectives. Students will learn the seven elements of an effective healthcare corporate compliance program. Students will explore the need for compliance programs within healthcare organizations.

34:501:590 ***Leadership and Professional Development (3)***
CORE COURSE
An in-depth look at leadership styles, traits, and strategies using critical thinking and complex analysis that addresses multifaceted healthcare case studies involving best practices and change management.
Prerequisites: 34:501:501, 34:501:515, 34:501:533, 34:5901:563 and34:501:571

34:501:595 ***Professional Internship Practicum (6)***
CORE COURSE
A capstone field experience in an approved health care facility designed so students apply health care theory to practice in a real-world setting. Students complete an outcomes-driven project that is presented as a written business analysis and a formal presentation in a public forum.
Prerequisite: 34:501:563 , 34:501:571 and 34:501:590

Public Informatics Program (EJB-G)

PUBLIC INFORMATICS PROGRAM

About the Public Informatics Program

Public Informatics Degree Options

Public Informatics Academic Standing and Procedures

About the Master of Public Informatics Program

About the Master of Public Informatics Program (EJB-G)

ABOUT THE MASTER OF PUBLIC INFORMATICS PROGRAM

The Master of Public Informatics (M.P.I.) degree is an advanced data science and artificial intelligence (AI) program with a focus on public good and socioeconomic value creation.

The Master of Public Informatics (M.P.I.) degree is designed specifically for students with undergraduate degrees in a wide range of fields, with sufficient quantitative skills via coursework, work experience, or a combination thereof. Prior programming or data management skills would be valuable, but are optional. The M.P.I. program educates professionals in the competencies needed in public informatics: advanced data science, statistics, programming, data analytics, visualization, spatial analysis, applied machine learning, text analytics, natural language processing, artificial intelligence (AI), and generative AI.

Public Informatics Degree Options (EJB-G)

PUBLIC INFORMATICS DEGREE OPTIONS

Graduates of the M.P.I. program will bring state-of-the-art knowledge, cutting-edge skills, and a deep, integrated understanding of context, data, technology, and AI for strategic insights generation across a broad range of MPI program concentrations in GIS, AI strategy, healthcare informatics, robotics, transportation, and others. The M.P.I. program prepares candidates for careers in public organizations, government agencies, private corporations, and businesses.

Full-time students are expected to complete the 36 credits required for the M.P.I. degree in three semesters (16 months), with an option to extend to 4 semesters for research, internships, and career enhancement purposes. Flexible part-time study options are available for working professionals.

More information may be found on the Bloustein School website.

Curriculum

Core Courses (18 credits)

- 34:816:502 Theory and Practice of Public Informatics (3)
- 34:816:680 Advanced Informatics Quantitative Methods * (3)
- 34:833:525 Applied Multivariate Methods or equivalent (3)
- 34:970:637 Global Data Analytics (3)
- 34:816:634 Machine Learning for Public Informatics (3)
- 34:816:645 Artificial Intelligence (3)
- 34:816:638 Command Line GIS for Public Informatics (3)
- 34:816:516 Data Science for Socioeconomics *(Required as prerequisite)*
- 34:816:510/511 Studio in Public Informatics *
- 34:816:510/511 Studio in Public Informatics *

**Advised*

Electives (18 credits)

A broad range of additional electives within the Bloustein School and other Rutgers University schools and colleges will be offered; some topics will be covered under future seminar, studio, and special topics courses.

Note: Students who opt for concentrations and tracks, and dual degree students, may need to fulfill additional track, concentration, or dual degree-specific requirements.

Joint Degrees and Graduate Certificate Program

The Bloustein School offers joint degrees with both the public policy and urban planning and policy development master's programs, and a graduate certificate program for those wishing to enhance their data and analytics skills and explore the possibility of a master's program in informatics.

The scheduled time frame for the completion of a joint Master's degree is usually shorter than what it would be to complete both degrees individually. In almost all cases, students must apply and be accepted to each degree program independently. Typically, dual degree programs are completed as part of full-time study.

The most current information for public informatics joint degree and certificate options, including course requirements, may be found on the school's website.

M.P.I. / Master of City and Regional (M.P.I./M.C.R.P.)
Combining the Bloustein School's Master of City and Regional Planning (M.C.R.P.) and Master of Public Informatics (M.P.I.) leads to a three-year dual degree option. Admission to the dual M.C.R.P./M.P.I. degree program is highly selective and requires simultaneous, separate applications to and acceptance by each program. A total of 60 credits must be completed in a minimum of three years of full-time study.

M.P.I. / Master of Public Policy (M.P.I./M.P.P.)
Combining the Bloustein School's Master of Public Policy (M.P.P.) and Master of Public Informatics (M.P.I.) degree leads to a two-and-a-half year dual degree option. Admission to the dual M.P.P./M.P.I. degree program is highly selective and requires separate applications to and acceptance by each program. A total of 60 credits must be completed in a minimum of two and a half years of full-time study.

Graduate Certificate in Public and Urban Informatics
The Graduate Certificate in Public and Urban Informatics allows non-matriculated students, who have completed an undergraduate degree from a nationally/internationally accredited program, to enhance their data and informatics skills to the application of planning and public policy topics.

Professionals who are starting their careers may pursue this certificate to enhance their skills and explore pursuing the Bloustein School's master of public informatics; mid-career professionals may find this certificate of interest in order to upgrade and advance their quantitative and informatics capabilities.

The Bloustein School will award a Certificate in Public and Urban Informatics to students who successfully complete the 12-credit curriculum. Students that complete the certificate would be eligible to apply for the Bloustein School's 36-credit Master of Public Informatics and, if admitted, use their credits as part of their degree requirements.

Concentrations

The M.P.I. program offers multiple areas of concentration that allow students to focus on domain-specific career advancement. These concentrations are intended to help students develop knowledge and skills in specializations that will help them to be successful in their individual careers. As an additional option, students can consider a custom concentration related to public informatics, advanced data science, and AI. The custom concentration requires approval from the advisor and program director and is for MPI students only.

- Geographic Information Science
- Artificial Intelligence Strategy
- Social Robotics
- Transportation Analytics
- Healthcare Informatics.

For the most current configuration of courses for Master of Public Informatics concentrations, please see the school's website.

Public Informatics Academic Standing and Procedures (EJB-G)

PUBLIC INFORMATICS ACADEMIC STANDING AND PROCEDURES

The Master of Public Informatics program is committed to an excellent education for all students. All students in the program must achieve certain academic standards in order to continue in the course of study. If a student fails to meet these standards, due process on academic standing may lead to dismissal from the program.

Grade-Point Average Requirement

A student must maintain an overall grade-point average of 3.0 and a grade-point average of 3.0 in the required courses in order to graduate with an M.P.I. degree (A=4.0 and F=0). If, at the end of a semester, the grade-point average is below 3.0 according to either criterion, the student will have one semester to improve the average to 3.0 or greater. During this semester, the student will be on probation. At the end of the probation semester, if the student has not achieved a grade-point average of 3.0 overall and in the required courses, the program director may recommend dismissal to the dean.

Additionally, the Bloustein School requires that no more than 9 credits of C or C+ grades may be used in meeting the requirements of the degree. In calculating the grade-point average, all courses taken while a matriculated student in the M.P.I. program will be counted. Courses taken as a nonmatriculated student that are to be counted for the degree will also be included in the grade-point average.

Undergraduate Courses for Graduate Credit

Undergraduate courses may be taken for graduate credit while a student is matriculated in the program. They may be taken only when no comparable graduate courses are available within Rutgers University and only under the guided supervision of the student's faculty adviser or program director.

Undergraduate courses to be taken for graduate credit must be reviewed and approved by the faculty adviser and by the program director. The faculty adviser supervises the writing of a paper that integrates the material in the undergraduate course with the coursework taken under the student's area of concentration. In general, no more than 3 credits of undergraduate coursework taken while the student is in the graduate program may be applied to the graduate degree. A form is available from the Office of Student and Academic Services. When registering, the student must insert a G-prefix before the course number in order to receive graduate credit. Students who have taken an undergraduate course without the G-prefix will find that the transcript indicates the course does not count toward their graduate degree.

Course Requirement Waiver

Students may be excused from a required course if they demonstrate equivalent mastery of the subject matter. An application for waiver should be made to the program director, who may consult with the principal faculty members in charge of the required course. The required course waiver form is available from the Office of Student and Academic Services.

A maximum of 12 graduate credits earned outside of the program may be transferred into the M.P.I., all subject to approval by the program director.

For additional details and policies, please see the school's website.

Public Informatics Course Listing (EJB-G)

PUBLIC INFORMATICS COURSE LISTING

This list includes the required core courses and electives for the public informatics (816) master's degree offered and graduate level certificate offered at the Bloustein School as of September 1, 2025. Elective courses are taught by multiple instructors and may not be offered every semester.

Requirements for the Master of Public Informatics, and the complete list of Master of Public Informatics courses and electives offered, may be found at the Bloustein School website.

Students should refer to WebReg for information about special topics courses.

34:816:502 ***Theory and Practice of Public Informatics (3)***
CORE COURSE
Engages in critical discussion of the data, methods, context and application of public informatics. It explores logical, ethical, legal, and political dimensions while considering how to anticipate and avoid unintended consequences of deploying public informatics tools.
Credit not given for this and 34:970:502.

34:816:503 ***Data Visualization (3)***
ELECTIVE
This course introduces students to Data Visualization with R. It will cover important data visualization techniques which will be useful for a broad range of applications across public, government, social and business domains. Students will learn to work with a broad variety of datasets to create advanced visualizations and professional report-ready data visualizations.

34:816:510, 511 ***Studio in Public Informatics I, II, III (3, 3)***
ELECTIVE
These courses provide a hands-on project experience in natural language processing (NLP).

34:816:516 Data Science for Socioeconomics ***(3)***
REQUIRED PREREQUISITE
This course lays the data science foundations for public informatics and AI, with an emphasis on using data and quantitative methods for socioeconomic analyses and public good.

34:816:614 ***Research Internship (3)***
ELECTIVE

34:816:616 ***Directed Study (Research) (3)***
ELECTIVE
This course provides an opportunity for students to conduct research under faculty guidance.

34:816:634 ***Machine Learning for Public Informatics (3)***
CORE COURSE
This course provides an overview of applied machine learning.

34:816:638 ***Command Line GIS for Public Informatics (3)***
CORE COURSE
This course is the main GIS course for public informatics students and introduces the use of GIS with Python and open-source tools, usually delivered in an online format.

34:816:640 ***Robotics and Society (3)***
ELECTIVE
This course provides an introduction to robotics in human society.

34:816:641 ***Socially Cognizant Robotics (3)***
ELECTIVE
This course provides an overview of social interaction with robots.

34:816:642 ***Design Methods in Socially Cognizant Robotics (3)***
ELECTIVE
This course provides insights into the design methods used for robotics in society.

34:816:645 ***Artificial Intelligence (AI): Practice, Principles & Strategies (3)***
CORE COURSE
This course provides a strategic overview of artificial intelligence and generative AI concepts.

34:816:680 ***Advanced Informatics Quantitative Methods*** **(3)**
CORE COURSE
This course prepares students in the advanced quantitative methods that will be needed for public informatics careers with an emphasis on explainability and depth of quantitative and programmatic understanding.

Public Policy Program (EJB-G)

PUBLIC POLICY PROGRAM

About the Public Policy Program

Public Policy Degree Options

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About the Public Policy Program (EJB-G)

ABOUT THE PUBLIC POLICY PROGRAM

The Bloustein School offers two graduate policy master's degrees and a graduate policy certificate. All three are designed to prepare students for careers in government, politics, and policy, with required coursework in the public policy process, quantitative and qualitative research methods, and economic analysis as well as a broad range of electives. Six dual-degree programs are also offered with the M.P.P.

The Master of Public Policy (M.P.P.) is a 48-credit degree program offering advanced methods training, an applied internship, and concentrations in various policy areas. The first M.P.P. class graduated in 1999, and program alumnae/alumni have developed a strong record of achievement in the public, private, and nonprofit sectors. The M.P.P. program is accredited by NASPAA, which sets the global standard in public service education and is the membership organization for graduate education programs in public policy, public affairs, public administration, and public and nonprofit management.

The Bloustein School also offers the 30-credit Master of Public Affairs and Politics (M.P.A.P.) degree. This program, which has been training students in politics and public affairs since 1958, is designed for professionals who have worked in public policy or politics for at least five years.

The Graduate Certificate in Public Policy is intended for students who want to strengthen their understanding of the policy process as well as those considering enrolling in one of Bloustein's policy master's programs. Certificate students must complete four courses that cover the dynamics of public policy formation, economics, and research design, as well as an elective in their specific interest area. All certificate courses may be counted towards the MPP or MPAP degrees.

The Bloustein School faculty is world-renowned for its policy expertise. Many Bloustein faculty members focus on using policy to improve life for vulnerable groups and reduce economic inequality. As the policy program is affiliated with an urban planning program ranked in the top five nationally, the Bloustein School is an excellent place in which to study fields where urban planning and public policy intersect, such as environmental policy, housing policy, and community development. In addition to an exceptional full-time faculty, the program engages several high-ranking current and former government officials and other practitioners to teach courses. A number of faculty members in the program also hold positions with research centers--including the John J. Heldrich Center for Workforce Development, the Center for State Health Policy, and the New Jersey State Policy Lab.

The Bloustein School offers six dual-degree programs in the policy program.

- M.P.P./M.B.A. (Master of Business Administration) with the Rutgers Business School: Graduate Programs-Newark and New Brunswick;
- M.P.P./M.C.R.P. (Master of City and Regional Planning) with the Bloustein School urban planning program
- M.P.P./M.P.I. (Master of Public Informatics), with the Bloustein public informatics program
- M.P.P./M.P.H. (Master of Public Health) with the Rutgers School of Public Health
- M.P.P./M.S.W. (Master of Social Work) with the Rutgers School of Social Work
- M.P.P./J.D. (Juris Doctor) with the Rutgers Law School.

More information about graduate public policy degree options may be found on the Bloustein School website.

Public Policy Degree Options (EJB-G)

PUBLIC POLICY DEGREE OPTIONS

The mission of the public policy program is to further and strengthen innovation, rigor, and justice in the field of public policy through teaching, research, and service. The program prepares students for careers in government, politics, and public affairs within the public, nonprofit, or for-profit sectors. It provides students with conceptual and analytical tools to build their competencies in four areas: public policy, research methods, economics, and politics, as well as training in leadership, values, and ethical behavior that guide the responsible application of these competencies in the field.

Graduate Certificate in Public Policy

Graduate Certificate in Public Policy

The Bloustein School has two options for this certificate:

1. Current graduate students already enrolled in a formal Rutgers degree program, and
2. Applicants who are NOT currently enrolled in a Rutgers graduate program but who have completed a bachelor's degree.

The Graduate Certificate in Public Policy is designed for individuals who are interested in applied policy-related work and wish to expand their understanding of the policy-making process and of the forces that influence public debates, stimulate policy change, and build the public good.

Certificate students complete three required courses, covering the dynamics of policy formation, economics, and research design, and one elective in their specific interest area. All four certificate courses count towards the Bloustein Master of Public Policy (48 credits) or the Master of Public Affairs and Politics (30 credits) degrees, for those who decide to continue their studies after completing the certificate.

CURRICULUM

- 34:833:510 Public Policy Formation (3)
- 34:833:530 Research Design (3)
- 34:833:543 Economics for Public Policy (3)
- 34:833:5xx Public Policy Elective (3)

For the most current configuration of courses for Graduate Certificate in Public Policy and the appropriate method of application for the certificate, please see the school's website.

Public Policy Degree Options (EJB-G)

Master of Public Policy (M.P.P.)

Master of Public Policy (M.P.P.)

The primary objective of the Master of Public Policy (M.P.P.) degree program is to prepare students for careers in policy analysis, politics, and advocacy within public, nonprofit, and for profit sectors. If pursued on a full-time basis, the M.P.P. typically takes two years to complete.

Students must complete 16 courses (48 credits), including ten courses of required coursework and six elective courses. Three of the six electives must comprise a concentration in a substantive policy area. There is no thesis requirement. To graduate, a student must maintain an overall grade-point average of 3.0, with no more than three grades (9 credits) of C+ or below.

Core Courses (30 credits)

- 34:833:510 Public Policy Formation (3)

- 34:833:543 Economics for Public Policy (3)
- Management/Organizational Behavior requirement (3), fulfilled by one of the following:
    - 34:833:681 Managing People and Organizations ***or***
    - 34:833:570 Nonprofit Management ***or***
    - 34:833:571 Public Management
- Finance/Budgeting requirement (3), fulfilled by one of the following:
    - 34:833:540 State and Local Public Finance ***or***
    - 34:833:567 Budgeting and Public Policy ***or***
    - 34:833:612 Nonprofit and Community Development Finance
- 34:833:515 Basic Quantitative Methods (3)
- 34:833:525 Applied Multivariate Methods (3)
- 34:833:530 Research Design (3)
- 34:833:661 Applied Field Experience 1 (0)
- 34:833:662 Applied Field Experience 2 (0)
- 34:833:663 Applied Field Experience 3 (3)
- 34:833:640,641 Policy Research Practicum I, II (3, 3) (taken simultaneously)

Electives (18 credits)

- Three elective courses (9 approved concentration credits) (3, 3, 3)
- Up to 12 elective credits from elsewhere at Rutgers University. Up to six of those elective credits may be (by special arrangement) from the School of Public and International Affairs at Princeton University. For the most current configuration of courses for the Master of Public Policy degree, please see the school's website.

Concentrations

Master of Public Policy (M.P.P.) students are required to present a three-course (9-credit) concentration to complete their degree requirements. These concentrations can be in one of the existing policy areas or students can, with the advice of a faculty member, design their own concentration. A list of current concentrations and advisors is available at Master of Public Policy.

Students must demonstrate basic competency in their three-course area of concentration by achieving a B+ or better on average. Students are welcome to design their own concentration of cross-cutting substantive concerns, subject to the approval of the program director. Courses offered toward the policy area may be drawn from offerings within the public policy program, the Bloustein School, or Rutgers generally, with the permission of the adviser or the program director.

Public Policy Degree Options (EJB-G)

Master of Public Affairs and Politics (M.P.A.P.)

Master of Public Affairs and Politics (M.P.A.P.)

The Master of Public Affairs and Politics (M.P.A.P.) degree is designed to help students develop or refine analytic and quantitative skills and to form a more thorough understanding of the political institutions and processes through

which public policies are implemented and formulated. The M.P.A.P. is available to those with a bachelor's degree and five or more years of work experience in politics or public policy. If pursued on a full-time basis, the M.P.A.P. can be completed in one year.

Students must complete 30 credits, including a required core of 12 credits in policy, research methods, economics, and analysis. There is no thesis requirement. Students cannot graduate with more than three courses (9 credits) with grades below a B.

Core Courses (12 credits)

- 34:833:510 Public Policy Formation (3)
- 34:833:515 Basic Quantitative Methods (3)
- 34:833:530 Research Design (3)
- 34:833:543 Economics and Public Policy (3)

Electives (18 credits)

- Six elective courses (18 credits)

For electives, students may choose from a wide array of graduate public policy courses. Some of the electives may also be from courses offered by other Bloustein School programs, courses offered elsewhere at Rutgers University, and courses offered by the School of Public and International Affairs at Princeton University.

For the most current configuration of courses for the Master of Public Affairs and Politics degree, please see the school's website.

Public Policy Degree Options (EJB-G)

M.P.P./J.D. Dual-Degree Program

M.P.P./J.D. Dual-Degree Program

Rutgers Law School in Newark and Camden and the Bloustein School offer a dual Master of Public Policy /Juris Doctor (MPP/JD) degree, designed for students who are interested in law and public policy.

This four-year program is a savings of 24 credits (one year) relative to completing both degrees independently.

Rutgers Law School and the Bloustein School each accept 12 credits from the other toward their respective degrees.

Students may begin the dual degree at either the Bloustein School or Rutgers Law School.

To be considered for the dual degree program, students must apply and be accepted separately into the Bloustein School's Master of Public Policy Program in New Brunswick and into Rutgers Law School in Camden or Newark. The dual degree program is also available to students currently enrolled at either the Bloustein School or Rutgers Law School.

The most current program information can be found on the Bloustein School website.

Public Policy Degree Options (EJB-G)

M.P.P./M.B.A. Dual-Degree Program

M.P.P./M.B.A. Dual-Degree Program

The Master of Public Policy (M.P.P.) and Master of Business Administration (M.B.A.) dual degree may be completed in three years of full-time study. This is a savings of 24 credits (8 courses) compared to separately earning the 48-credit M.P.P. and the 60-credit M.B.A. degrees.

The M.P.P. program accepts approved M.B.A. economics, budgeting and management courses in place of those M.P.P. requirements. Dual-degree students also may substitute the M.B.A. Marketing Research course for the M.P.P. Research Design requirement. The Rutgers Business School: Graduate Programs-Newark and New Brunswick accepts 12 M.P.P. credits (4 courses toward the M.B.A. degree.)

The most current program information may be found at the Bloustein School website.

Public Policy Degree Options (EJB-G)

M.P.P./M.C.R.P. Dual-Degree Program

M.P.P./M.C.R.P. Dual-Degree Program

The Master of Public Policy (M.P.P.) and Master of City and Regional Planning (M.C.R.P.) dual-degree may be completed in three years of full-time study. This is a savings of 24 credits (8 courses) compared to separately earning the 48-credit M.C.R.P. and the 48-credit M.P.P. degrees.

The dual-degree program consists of 10 elective courses and 13 to 14 policy and planning core courses (Public Policy Formation; Basic Quantitative Methods; Research Design, Applied Multivariate Methods; Planning Methods; Urban Economy and Spatial Patterns; History and Theory of Planning; Economics of Public Policy; Survey of Planning Law Principles; a policy management requirement; a policy finance requirement; two Graduate Planning studios or one 6-credit Practicum; and the Applied Field Experience sequence). Four of the electives must constitute a planning concentration.

The most current program information may be found at the Bloustein School website.

Public Policy Degree Options (EJB-G)

M.P.P./M.P.H. Dual-Degree Program

M.P.P./M.P.H. Dual-Degree Program

The Master of Public Policy (M.P.P.) and Master of Public Health (M.P.H.) dual-degree may be completed in three years of full-time study. This is a savings of 24 credits (8 courses) compared to separately earning the 48-credit M.P.P. and the 45-credit M.P.H. degrees.

The M.P.P. program accepts two M.P.H. required courses (Introduction to Biostatistics and Health Services Research Evaluation) in place of two M.P.P. required courses (Research Design and Basic Quantitative Methods). The M.P.P. program also accepts four M.P.H. electives in place of four M.P.P. electives and counts Fieldwork II hours toward the 300 hours of required internship experience for the Applied Field Experience course. The M.P.H. program accepts two M.P.P. electives in place of two M.P.H. electives.

The most current program information can be found at the Bloustein School website.

Public Policy Degree Options (EJB-G)

M.P.P./M.P.I. Dual-Degree Program

M.P.P./M.P.I. Dual-Degree Program

This dual-degree program leads to a Master of Public Informatics (M.P.I.) degree and a Master of Public Policy (M.P.P.) degree in two and a half years. This is a savings of 24 credits (8 courses) compared to earning the 36-credit M.P.I. and the 48-credit M.P.P. degrees separately.

The dual-degree program consists of the 16 M.P.P. courses and six M.P.I. courses (Theory and Practice of Public Informatics; Big Data Analytics; Intro to GIS for Planning or an equivalent course; Advanced Graphical Communication for Planners or an equivalent course). The most current program information may be found at the Bloustein School website.

Public Policy Degree Options (EJB-G)

M.P.P..M.S.W. Dual-Degree Program

M.P.P./M.S.W. Dual-Degree Program

This 81-credit dual-degree program leads to a Master of Public Policy (M.P.P.) and a Master of Social Work (M.S.W.) degree in three years of full-time study. This is a savings of 27 credits (9 courses) compared to earning the 48-credit M.P.P. and the 60-credit M.S.W. degrees separately. The Bloustein School accepts four M.S.W. courses towards the M.P.P. degree and the School of social work accepts five M.P.P. courses towards the M.S.W. degree.

The M.S.W.-M.P.P. dual-degree program offers students the opportunity to develop advanced policy practice skills with a focus on social justice and social welfare policy. It complements and enhances both the Rutgers School of Social Work's M.S.W. program and the Bloustein School's M.P.P. program by contributing to specialized knowledge and practice skills and supporting expanded career opportunities for students.

The most current program information may be found at the Bloustein School website.

Public Policy Academic Standing and Procedures (EJB-G)

ACADEMIC STANDING AND PROCEDURES

All students in the public policy program must achieve certain academic standards in order to continue in the course of study. The program is committed to an excellent education for all students; however, a student will occasionally have difficulty. The program director, in consultation with other faculty, administers student standing. If a student fails to meet these standards, the program director may recommend dismissal to the dean.

Grade-Point Average Requirement

Grade-Point Average Requirement

A student must maintain an overall grade-point average of 3.0 in order to graduate with any degree or receive a certificate. If, at the end of a semester, the grade-point average is below 3.0, the student will have one semester to improve the average to 3.0 or greater. During this semester, the student will be on probation. At the end of the probationary semester, if the student has not achieved a grade-point average of 3.0 overall, the graduate program director may recommend dismissal to the dean.

Additionally, the Edward J. Bloustein School of Planning and Public Policy requires that no more than 9 credits of C or C+ grades may be used in meeting the requirements of either masters program. In calculating the grade-point average, all courses taken while a matriculated student in the master public policy (M.P.P.) or master of public affairs and politics (M.P.A.P.) degree programs will be counted. Courses taken as a nonmatriculated student that are to be counted for the degree also will be included in the grade-point average.

Universal Review
All students enrolled in the master of health administration (M.H.A.) program, both matriculating and non-degree, shall be evaluated each semester vis-a-vis satisfactory progress toward the M.H.A. degree. Students having a qualitative deficiency shall be notified and required to develop a remediation plan.

Course Requirement Waiver

Course Requirement Waiver

Students may be excused from a required course if they demonstrate equivalent mastery of the subject matter. Application for waiver should be made to the program director who will consult with the principal faculty members in charge of the required courses on the waiver of course requirement form available from the Office of Student and Academic Services. When waivers are granted, the student then must substitute other courses to fulfill the total credit requirement for the degree.

A maximum of 12 graduate credits earned outside of the program may be transferred in and applied toward the master of public policy (M.P.P.); 9 credits for the master of public affairs and politics (M.P.A.P.). All transfer credits are subject to approval by the program director.

Undergraduate Courses for Graduate Credit

Undergraduate Courses for Graduate Credit

Undergraduate courses may be taken for graduate credit while a student is matriculated in the program. They are taken only when no comparable graduate courses are available within the Rutgers University system and only under the guided supervision of the student's faculty adviser or program director. Undergraduate courses to be taken for graduate credit must be reviewed and approved by the faculty adviser and by the program director. The faculty adviser supervises the writing of a paper that integrates the material in the undergraduate course with the coursework taken under the student's area of concentration. In general, no more than 3 credits of undergraduate coursework taken while the student is in the graduate program may be applied to the graduate degree. A form is available from the Office of Student and Academic Services. When registering, the student must insert a G prefix before the course number in order to receive graduate credit. Students who have taken an undergraduate course without the G prefix will find that the transcript indicates the course does not count toward their graduate degree.

Public Policy Course Listing (EJB-G)

COURSE LISTING

This list includes the graduate public policy (833) and graduate certificate in public policy courses offered at the Bloustein School as of September 1, 2025. These courses are taught by multiple instructors and may not be offered every semester.

A broad range of additional electives is offered by other graduate programs at the Bloustein School, other graduate programs at Rutgers University, and our partner institutions.

Requirements for graduate public policy programs and the most up-to-date list of graduate public policy core courses and electives offered may be found on the Bloustein School website.

Students should refer to WebReg for information about topics of Seminars in Public Policy.

34:833:510 ***Public Policy Formation (3)***
CORE COURSE
Formulation and implementation of public policy, with emphasis on federal policy making, models for policy choice, and intergovernmental policy problems. Analysis of the formulation and implementation of a governmental program.

34:833:513
Health Disparities (3)
ELECTIVE The overarching goal of this class is to provide a broad overview of health disparities in the United States, with a focus on the "trifecta" of inequality--race/ethnicity, socioeconomic position, and gender.
Cross-listed with 34:832:513 and 10:832:413.

34:833:515 ***Basic Quantitative Methods (3)***
CORE COURSE
Introduction to applied statistics. Includes descriptive and inferential statistics, regression and correlation analysis, and computer-based analytic tools for planning and policy analysis.
Credit not given for both this course and 34:970:515.

34:833:520
Legislative Policy Making (3)
ELECTIVE Examines policy making in the states with a special focus on governors and state legislatures and the processes by which policies are determined (including legislative representation, lobbying, agenda setting, issue campaigning, etc.)

34:833:522
Public Policy Advocacy (3)
ELECTIVE Role and process of organized advocacy by private interests in the formation and implementation of public policy. Strategies and methods used to influence the policy process.

34:833:525 ***Applied Multivariate Methods (3)***
CORE COURSE
Covers applied skills in data management and advanced multivariate analysis, with a focus on multiple linear regression, factor analysis, and logistic regression.
Credit not given for both this course and 34:970:525.

34:833:530 ***Research Design (3)***
CORE COURSE
Examines scientific method of study; the processes of conceptualization and measurement; "experimental design," or how social programs are structured so they may be effectively studied; and survey research and qualitative methods including focus groups, interviews, and case studies.

34:833:535 ***Data Visualization & Storytelling (3)***
ELECTIVE
This course introduces students to Data Visualization. It will cover important data visualization techniques that will be useful for a broad range of applications across public, government, social, and business domains. Students will learn to work with a broad variety of datasets to create advanced visualizations and professional, report-ready data visualizations.
Cross listed with 10:833:394.

34:833:540 ***State and Local Public Finance (3)***
CORE COURSE
Theory and practice of state-local public finance; link between regional economy and subnational governments; fiscal federalism; major state-local spending programs; revenues, including property, sales, and income taxes and gambling; intergovernmental grants.

34:833:543 ***Economics of Public Policy (3)***
CORE COURSE
Basic microeconomic analysis with applications to current policy issues. Models of consumer and firm behavior applied to issues such as assistance programs for low-income individuals, tax incentives for firms and workers, and environmental regulation. Examines public goods, externalities, and the role of government in economic markets.

34:501:552 ***Education Policy and Social Justice (3)***
ELECTIVE
Examines the intersection of education policy and social justice, including the impacts on equity of school segregation, changes to school funding and policies such as charter schools, forced school closings, and using high-stakes standardized testing to evaluate students, teachers, and public schools.

34:833:553 ***LGBTQIA+ Policy (3)***
ELECTIVE
Explores the history of LGBTQIA+ political movements, their impact on public policy, how intersecting identities correlate to public strategy, and how the media has affected the movement.

34:833:554 ***Children, Law & Public Policy (3)***
ELECTIVE
Explores two key tensions in public policy about children: Parental rights to raise their children vs. state duties to protect children and mold future generations; and children as small adults with a full range of adult autonomy vs. children as a uniquely vulnerable class of people requiring special protection.

34:833:555 ***Labor Market Policy (3)***
ELECTIVE
Examines labor markets and policies. Topics include wage inequality, discrimination, unions, and employment and training programs.

34:833:556 ***Higher Education Policy (3)***
ELECTIVE
Examines the historic and contemporary policy debates in higher education and the tradeoffs between affordability, access, quality, academic freedom, and accountability. Covers federal, state, and local roles in policymaking and addresses a key challenge in applying policy theory to higher education policy because of the limited role of the federal government.

34:833:557 ***Criminal Justice Policy & Social Justice (3)***
ELECTIVE
Explores the criminal legal system's far-reaching impact on housing, employment, education, child rearing, and healthcare, particularly for lower-income and otherwise marginalized groups. Students formulate comprehensive policy proposals aimed at rectifying disparities and promoting social justice.

34:833:558 ***Media, Democracy & Public Policy (3)***
ELECTIVE
Examines how our democracy is influenced by the media and the impact that has on our politics, our elected officials, and public policy.

34:833:559 ***Political Communications and Public Policy (3)***
ELECTIVE
Explores how to translate often complex policy ideas into readily understandable language. Focuses on framing policies, testing messaging through focus groups and polling, and winning public approval through public statements and social media.

34:833:561 ***The Racial Wealth Gap and Why It Persists (3)***
ELECTIVE
Explores policies and practices that worsen the racial wealth gap, identifies the barriers that prevent stakeholders from changing those policies, and introduces experts and advocates currently working to tackle those barriers.

34:833:565 ***Regulatory Policy (3)***
ELECTIVE
Studies the role that executives, legislators, bureaucrats, courts, and others play in policies for regulating the environment, privacy, worker safety, and other areas.

34:833:567 ***Budgeting for Public Policy (3)***
CORE COURSE
Provides an overview of budgeting and related financial management issues in the public sector. Focuses primarily on federal and state levels of government.

34:833:570 ***Nonprofit Management (3)***
CORE COURSE
Applies management concepts to nonprofit organizations, emphasizing the challenges faced by managers under resource scarcity and uncertain boundaries among public, for-profit, and nonprofit sectors.

34:833:571 ***Public Management (3)***
CORE COURSE
Explores fundamental tasks and responsibilities of management in the public sector, with an emphasis on the external and internal environments in which managers implement public policies.

34:833:572 ***Negotiation and Conflict Resolution (3)***
ELECTIVE
Examines non-adversarial concepts and techniques of conflict resolution-negotiation, mediation, consensus-building dialogues considered in public contexts, from courts, prisons, and schools to other institutional and non-institutional settings. Issues include controversial subjects such as siting resource recovery plants, implementing economic redevelopment plans, enacting environmental protection measures, and devising grievance mechanisms.

34:833:577 ***Immigration Policy (3)***
ELECTIVE
Explores the roots of today's modern immigration policy, including border and citizenship policy as well as how states and localities have responded to changes in federal immigration policy.

34:833:580 ***Health Care Policy (3)***
ELECTIVE
Current issues in U.S. health care policy with in-depth case examples from New Jersey policy. Provides an overview of the financing, regulation, and delivery of health care in the United States, with discussion of current policy topics including health insurance coverage, quality of care, and racial/ethnic disparities in care.

34:833:585 ***American Social Policy (3)***
ELECTIVE Focuses on the development of social welfare politics in the United States. Places the American case within the larger international and historical context, explores the major dilemmas in contemporary social policy making including agenda setting, institutional choice, and implementation design. Examines dilemmas in greater depth by analyzing specific policy issues, such as child support enforcement, nutrition programs, and medical care.

34:833:586 ***Impacted Folks Leading Policy Change (3)***
ELECTIVE
Focuses on the realities faced by impacted folks that advocate for policies at all levels of government. Particular attention paid to the role of power, politics, poverty, and educational access and attainment.

34:833:591 ***Women, Inequality, and Public Policy (3)***
ELECTIVE
Gender is one of the most important ways through which American life, both private and public, is defined. This course will primarily explore the historical evolution of women's role in both the family and the labor market, following a life course approach.
Cross-listed with 10:762:335 and 10:833:335.

34:833:612 ***Nonprofit and Community Development Finance (3)***
CORE COURSE
Covers general underwriting parameters, various loan types and loan terminology, and real estate finance topics from a nonprofit and community development perspective. Topics include project evaluation, development budgets, financing strategies, valuations, and capital market issues, as well as reading and understanding financial statements and tax returns.

34:833:619 ***Environmental Economics and Policy (3)***
ELECTIVE
Scarcity and choice are basic economic conditions that are inevitably present when determining environmental goals and implementing environmental policies. The role of economics in environmental issues and, especially, in the formation of environmental policy including environmental problems in air, water, land use, and natural environments.
Credit not given for this course and 34:970:619.

34:833:632 ***Cost-Benefit Analysis (3)***
ELECTIVE
Introduction to, and issues in, using cost-benefit analysis. Identify costs and benefits, and understand discounting, dealing with uncertainty, and valuing health and human life.

34:833:635 ***Survey Research (3)***
ELECTIVE
How to conduct, analyze, and evaluate surveys. Topics covered include problem formation, sample design and selection, questionnaire wording and layout, modes of survey administration, field procedures, data reduction, and data analysis.

34:833:640, 641 ***Policy Research Practicum I, II (3,3)***
CORE COURSE
Students participate in a directed research project that applies analytical techniques of policy analysis and evaluation or survey research to public policy problems.
Students must register for both courses simultaneously.

34:833:661, 662 ***Applied Field Experience 1, 2 (0,0)***
CORE COURSE
Students attend class sessions on career and other life skills.

34:833:663 ***Applied Field Experience 3 (3)***
CORE COURSE
Students complete 300 hours of public policy or public affairs related work experience.
Pre-requisite: Applied Field Experience 1 and 2

34:833:670 ***Independent Study in Public Policy (3)***
ELECTIVE

34:833:671 ***Internship in Public Policy (3)***
ELECTIVE

34:833:680 ***Energy, Sustainability, and Policy (3)***
ELECTIVE
Examines energy policy and planning through a timely, critical, and practical approach. Students gain insight into the factors that shape energy policy.
Credit not given for this course and 34:970:620.

34:833:681 ***Managing People and Organizations (3)***
CORE COURSE
Designed to enhance understanding of one's own motivation and behavior as well as that of others, to increase effectiveness in present and future positions and career satisfaction.
Credit not given for both this course and 34:501:572.

34:833:684-691, 693 ***Seminars in Public Policy (3 each)***
ELECTIVE
Topics vary. See WebReg for current offerings. These courses are designed to address current issues in public policy.

Urban Planning and Policy Development Program (EJB-G)

URBAN PLANNING AND POLICY DEVELOPMENT PROGRAM

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About the Urban Planning and Policy Development Program (EJB-G)

ABOUT THE URBAN PLANNING AND POLICY DEVELOPMENT PROGRAM

Founded in 1967, the urban planning and policy development program educates the next generation of planners who wish to combine social concerns with analytic skills. While planners work on a wide range of problems, they are also likely to focus on a particular issue or specialization in building individual careers, thus concentrating their professional expertise. For this reason, the trained planner is often called "a generalist with a specialty." That phrase is more than just a cliché. It suggests that a useful curriculum will contain a productive application of faculty disciplines and other program resources. It defines the approach to graduate study in urban planning and policy development at Rutgers.

Planning is future-oriented, comprehensive, and problem-solving. It seeks to link knowledge and action in ways that improve the quality of public and private development decisions affecting people and places. Because of its future orientation, planning embraces visionary and utopian thinking, yet also recognizes that the implementation of plans requires the reconciliation of present realities to future states. To become effective and ethical practitioners, students must develop a comprehensive understanding of cities and regions, and of the theory and practice of planning. They must also be able to use a variety of analytic methods in their practice. They must become sensitive to the ways in which planning affects individual and community values, and must be aware of their own roles in this process.

Urban Planning and Policy Development Degree Options (EJB-G)

URBAN PLANNING AND POLICY DEVELOPMENT DEGREE OPTIONS

Master of City and Regional Planning Degree

MASTER OF CITY AND REGIONAL PLANNING DEGREE

The Master of City and Regional Planning (M.C.R.P.) degree is generally recognized as the professional degree in the field. The M.C.R.P. program prepares students for practice in planning as well as policy and program development through a curriculum designed to develop an understanding of the linkages between the social, economic, and political factors of urban society and the physical and environmental framework of regions and communities.

The program requires two years of full-time coursework, with a total of 48 credits earned during that time. Reflecting the school's philosophy of providing an interdisciplinary approach for each student, a minimum of 24 elective credits is included in the 48-credit total.

Core Courses (24 credits)

- 34:970:501 History and Theory of Planning (3)
- 34:970:509 Urban Economy and Spatial Patterns (3)
- 34:970:510,511 Graduate Planning Studios (3, 3)
- 34:970:515 Basic Quantitative Methods (3)
- 34:970:516 Planning Methods (3)
- Additional methods course* (3)
- 34:970:517 Survey of Planning Law Principles (3)

**Chosen from an extensive list of qualitative and quantitative courses approved by the program director.*

Electives (24 credits)
For the most current configuration of courses and available electives for the Master of City and Regional Planning degree, please see the school's website.

Master of City and Regional Studies Degree

MASTER OF CITY AND REGIONAL STUDIES DEGREE

The Master of City and Regional Studies (M.C.R.S.) is a 30-credit degree offered under specialized circumstances. Applicants must hold an advanced degree and are seeking auxiliary knowledge in planning, or be international

practicing planners.

Requirements and standards for admission are comparable to the M.C.R.P. two-year degree. The 30 credits required for this degree include core required courses in theory and urban economy and two semesters of methods, including Basic Quantitative Methods (34:970:515).

Studio courses are not required. Course concentration can be determined with faculty advising. All M.C.R.S. candidates are required to pass an extensive comprehensive examination.

Core Courses (18 credits)

- 34:970:501 History and Theory of Planning (3)
- 34:970:509 Urban Economy and Spatial Patterns (3)
- 34:970:515 Basic Quantitative Methods (3)
- 34:970:516 Planning Methods (3)
- Additional methods course* (3)
- 34:970:517 Survey of Planning Law Principles (3)

**Chosen from an extensive list of qualitative and quantitative courses approved by the program director.*

Electives (12 credits)

For the most current configuration of courses and electives for the Master of City and Regional Studies degree, please see the school's website.

International Students

International students often take coursework from other Rutgers units to complement the nature of their program of study. In addition, *international students take on a series of professional work and internship experiences (practical training)* throughout their program of study with outside planning and public policy private, non-profit and government sector organizations.

International students must register (0-3 credits) for 34:970:844 Research Internship or 34:970:636 Internship in Urban Planning during semesters of professional work experiences (fall-spring-summer). All practical training experiences must be approved by the advisor/director using school paperwork through Handshake as well as with the Rutgers Global center for proper CPT paperwork approval. These experiences are monitored and reviewed by the program director.

Post-study OPT opportunities are also available if approved by Rutgers Global and the Bloustein Student and Academic Services Office (note early application deadlines). Students should see the Office of Student and Academic Services prior to engaging in any outside opportunity for consultation.

International students may be *waived* from 34:970:517 Survey of Planning Law Principles, and instead could take an elective course specific to their interests and in conjunction with their advisor's approval.

Joint Degree Options

Joint Degree Options

Within the urban planning program the Bloustein School offers joint degrees with both the public policy and public informatics master's programs, as well as an accelerated option for exemplary undergraduates. Dual degree programs are also offered in conjunction with other schools and departments at Rutgers University, including business, law, and food and business economics. A dual degree in infrastructure planning, offered with New Jersey Institute of Technology, provides a broad professional education intended to draw students from architecture, engineering, and the social sciences.

The scheduled time frame for the completion of a joint master's degree is usually shorter than what it would be to complete both degrees individually. In almost all cases, students must apply and be accepted to each degree program independently. Typically, dual degree programs are completed as part of full-time study.

For the most current configuration of courses for all urban planning joint and dual degrees, please see the school's website.

Joint B.A. or B.S. and Master of City and Regional Planning Program

The Bloustein School, in cooperation with the School of Arts and Sciences and the School of Environmental and Biological Sciences, offers a joint program that enables students to earn the bachelor of arts or science and the Master of City and Regional Planning in five years rather than the normal six. This (3-1-1) five-year program gives exemplary students the opportunity to complete their liberal arts education and prepare themselves for a career in urban planning and development.

Admission to the joint program is competitive and highly selective. Successful applicants for admission will have a GPA of 3.5 or better, a dedication to public service, and outstanding recommendations. Interested students who fulfill the above qualifications should contact the Bloustein School's Office of Student and Academic Services to discuss the program and the application process and schedule an interview.

Urban Planning and Public Policy (M.C.R.P./.M.P.P.)

Combining the Bloustein School's Master of City and Regional Planning (M.C.R.P.) and Master of Public Policy (M.P.P.) leads to a three-year dual degree option. Students are accepted independently to both graduate programs after providing a separate application to each, but share concentrations, course electives, and requirements. This is a savings of 24 credits (8 courses) compared to separately earning the 48-credit M.C.R.P. and the 48-credit M.P.P. degrees.

Urban Planning and Public Informatics (M.C.R.P./M.P.I.)

Combining the Bloustein School's Master of City and Regional Planning (M.C.R.P.) and Master of Public Informatics (M.P.I.) leads to a three-year dual degree option. Admission to the dual M.C.R.P./M.P.I. degree program is highly selective and requires simultaneous, separate applications to and acceptance by each program. A total of 60 credits must be completed in a minimum of three years of full-time study.

Rutgers Law School (M.C.R.P./J.D.)

The Rutgers Law Schools at Camden and Newark and the Bloustein School offer a dual-degree program designed for students who are interested in law, politics, and public policy.

A four-year course of study, this program leads to the Master of City and Regional Planning and Juris Doctor (M.C.R.P./J.D.) degrees offered by the Bloustein School and the law schools at the Newark and Camden campuses of Rutgers. Two and a half years are spent at the law school and one and a half years in the planning program. Students are accepted independently for both graduate professional programs after separate applications to each.

Rutgers Business School (M.C.R.P./M.B.A.)

The 84-credit dual M.C.R.P./M.B.A. degree program with the Rutgers Business School: Graduate Programs-Newark and New Brunswick can be completed in three years of full-time study. The total of 108 credits that would be required to obtain the two degrees separately (48 for M.C.R.P. and 60 for the M.B.A.) is thus reduced by 24 credits (12 credits each way), and the time from four to three years.

The dual degree combines the complementary strengths of the two programs and provides a broad professional education ranging from city and regional policy planning to business administration and management. It is intended to produce professionals who will make meaningful contributions to the improvement of cities and regions with a full foundation of business principles.

New Jersey Institute of Technology (M.C.R.P/M.I.P.)

To expand educational opportunities in the urban planning field, an agreement between the Bloustein School and the New Jersey Institute of Technology (NJIT) implemented a dual Master of City and Regional Planning and Master's in Infrastructure Planning degree program (M.C.R.P./M.I.P.). The Bloustein School's planning program offers a broad array of courses in such areas as housing, transportation, community development, environment, urban and regional economics, and information technology, as well as concentrations in several specialized areas. The M.C.R.P. degree is fully accredited and widely recognized.

Urban Planning and Food & Business Economics (M.C.R.P. or M.C.R.S. / M.S.)

The dual degree leads to either a Master of City and Regional Planning (M.C.R.P.) degree or a Master of City and Regional Studies (M.C.R.S.) degree in and a Master of Science (M.S.) degree in food and business economics. Students are accepted independently for each graduate program after separate applications. Students must meet the degree requirements of each program; however, with proper course selection, 9 credits of coursework from each program may be applied to the other degree, thus reducing by one and one-half semesters the length of time required to obtain the two degrees.

Certificate Programs

Certificate Programs

Certificates are groupings of five or so courses, offered by key multiple departments, that, if taken, indicate that the student has developed cross-disciplinary expertise in a particular subject area. The Bloustein School offers eight graduate certificate programs.

Climate Change and Resilience Certificate
The Bloustein School, the Institute of Earth, Ocean, and Atmospheric Sciences (EOAS), the Department of Human Ecology, and the Department of Civil Engineering have developed a certificate in coastal climate risk and resilience. The certificate focuses on the theories, methods, practical skills, and contextual knowledge needed to work productively on coastal areas and their populations which are extremely vulnerable to effects of climate change, ranging from sea-level rise to intensified storm events, and understanding both the risks and the adaptation opportunities requires knowledge from several disciplines.

Energy Certificate
The graduate certificate in energy, offered by the Bloustein School and Rutgers Energy Institute, is designed to give Rutgers students a strong background in the timely topic of energy. By taking advantage of the many energy-related courses offered at Rutgers as well as ongoing research involving all aspects of energy, the certificate builds on the diversity, magnitude, and variety of Rutgers resources in science, engineering, and public policy by enabling graduate students to cross over to courses outside their graduate program and enrich their background in energy. Students receiving this certificate will have received a broad exposure to the topics and challenges in energy, and will have stronger qualifications to pursue a career in industry, government, and academia upon graduation, as well as become leaders in innovation. Currently, Rutgers is unique in New Jersey offering a Graduate Certificate in Energy.

Human Dimensions of Environmental Change Graduate Certificate
The Department of Human Ecology coordinates an interdisciplinary graduate certificate on human dimensions of environmental change. The program is open to any student enrolled in a Rutgers University graduate program. The certificate program represents a collaboration among faculty from several graduate programs, and allows students to examine the political, cultural, economic, historical, and other human dimensions of environmental change while carrying out studies in an existing graduate program. The certificate is designed to help students access theoretical perspectives, skills, and/or other resources provided by various programs and departments at Rutgers while simultaneously creating spaces for interdisciplinary interaction.

Real Estate Development and Redevelopment Certificate
The graduate-level certificate program in real estate development and redevelopment, developed jointly by the Bloustein School and Rutgers Business School: Graduate Programs-Newark and Center for Real Estate, focuses on the theories, methods, practical skills, and contextual knowledge needed to work at a high level within this industry. The innovative and interdisciplinary program integrates existing coursework offered in the Bloustein School's graduate programs in planning and public policy, Rutgers Business School Center for Real Estate, and the Rutgers Business School M.B.A. program.

The real estate industry is economically important and has unique characteristics that tie it firmly to specific places and their attributes. This is especially true when redeveloping existing sites. The urban planner's domains of land-use planning, transportation, housing policy, property tax regimes, and local politics set the context for the real estate industry as it carries out development and redevelopment. The business of real estate drives the development and redevelopment processes that create the need for urban planning, urban design, and land-use regulation. By combining the strengths of Bloustein's urban planning graduate program with the RBS M.B.A. real estate concentration, this certificate offers students in both programs an unparalleled learning opportunity. This collaboration, these perspectives, and skills are the focus of this certificate program.

Transportation Studies Certificate
The Bloustein School, in partnership with the School of Engineering, offers a cross-disciplinary program leading to the graduate certificate in transportation studies. The certificate is open to matriculated graduate students at the Bloustein School and in the School of Engineering's Department of Civil and Environmental Engineering. The certificate is offered with two concentrations: technology and design and policy and planning. The technology and design concentration focuses on analysis and design issues and is directed at students with an interest in transportation and traffic engineering and facility design. The policy and planning concentration focuses on the policy and planning process and is directed at students with these interests. In general, the student enrolls in one of the programs at the master's level and, upon graduating, receives a transportation studies certificate signifying completion of the program at the same time the student receives his or her master's degree. Under some circumstances, doctoral students may be admitted to the certificate program.

Geospatial Information Science Certificate
A certificate program in geospatial information science is offered by a faculty drawn from the Bloustein School, the Department of Geography at the School of Arts and Sciences, and the School of Environmental and Biological Sciences. The certificate program provides an in-depth, interdisciplinary examination of the emerging discipline of geospatial information, focusing both on the development of theory and on the application of geographic information systems.

Historic Preservation Certificate
The graduate certificate in historic preservation is a cross-disciplinary graduate program administered by the Bloustein School and the Department of Art History at the School of Arts and Sciences. This certificate program is open to graduate students enrolled in and working toward completion of any of Rutgers graduate master's or doctoral programs.

The most current information about all certificate programs may be found at the Bloustein School website.

Concentrations, Studios, and Internships (EJB-G)

CONCENTRATIONS, STUDIOS, AND INTERNSHIPS

Concentrations

Studios

Internships

Directed Study

Urban Planning and Policy Development Academic Standing and Procedures (EJB-G)

ACADEMIC STANDING AND PROCEDURES

All students in the Urban Planning and Policy Development program must achieve certain academic standards in order to continue in the course of study. The program is committed to an excellent education for all students. The program director, in consultation with other faculty, administers student standing. If a student fails to meet these standards, the program director may recommend dismissal.

Grade-Point Average Requirement

Grade-Point Average Requirement

Students must maintain an overall grade-point average of 3.0 in order to graduate. If a student's grade-point average is below a 3.0 at the end of the semester, the student will have one semester to improve the average to 3.0 or greater. During this semester, the student will be on probation. Additionally, the Bloustein School requires that a student cannot graduate with more than three courses (9 credits) with grades of C+ or below.

Professional Report Requirement (M.C.R.P.)

Professional Report Requirement (M.C.R.P.)

M.C.R.P. students must satisfy the professional report requirement by receiving a grade of A or better on a memo prepared in Planning Methods (34:970:516). The report will be structured as a short (about 10 pages) memorandum written in a professional style on a planning topic approved by the course instructor.

Comprehensive Examination (M.C.R.S.)

Comprehensive Examination (M.C.R.S.)

The M.C.R.S. degree requires a comprehensive examination used to assess the knowledge of the student with regard to basic concepts and methods used by urban planners. The examination may be written or oral and is supervised by two members of the graduate urban planning faculty. The oral exam lasts approximately one hour. While the primary focus is on basic planning concepts and methods, the exact content of the examination is determined by the two faculty examiners. A written examination can take the form of one or two longer essays or a series of short questions. This examination is to be closed book and taken in a school office or classroom.

The M.C.R.S. comprehensive examination is to be scheduled for the last semester in which the student will be in residence at the school. The M.C.R.S. comprehensive examination form, outlining the process, is available in the Office of Student and Academic Services.

Urban Planning and Policy Development Academic Standing and Procedures (EJB-G)

Undergraduate Courses for Graduate Credit

Undergraduate Courses for Graduate Credit

Undergraduate courses may be taken for graduate credit while a student is matriculated in the program. They are taken only when no comparable graduate courses are available within the Rutgers University system and only under the guided supervision of the student's faculty adviser or program director.

Undergraduate courses to be taken for graduate credit must be reviewed and approved by the faculty adviser and by the program director. The faculty adviser supervises the writing of a paper that integrates the material in the undergraduate course with the coursework taken under the student's area of concentration. In general, no more than 3 credits of undergraduate coursework taken while the student is in the graduate program may be applied to the graduate degree. A form is available from the Office of Student and Academic Services. When registering, the student must insert a G-prefix before the course number in order to receive graduate credit. Students who have taken an undergraduate course without the G-prefix will find that the transcript indicates the course does not count toward their graduate degree.

Urban Planning and Policy Development Academic Standing and Procedures (EJB-G)

Course Requirement Waiver

Course Requirement Waiver

Students may be excused from a required course if they demonstrate equivalent mastery of the subject matter. Application for waiver should be made to the program director who will consult with the principal faculty members in charge of the required courses on the waiver of course requirement form available from the Office of Student and Academic Services. When waivers are granted, the student then must substitute other courses to fulfill the total credit requirement for the degree.

A maximum of 12 graduate credits earned outside of the program may be transferred into the M.C.R.P. or 9 credits for the M.C.R.S., all subject to approval by the program director.

For additional details and policies, please see the school's website.

Urban Planning and Policy Development Course Listing (EJB-G)

COURSE LISTING

This list includes the urban planning and policy development (970) courses offered at the Bloustein School as of September 1, 2025. Courses are taught by various instructors and some may not be offered every semester. Elective courses are taught by multiple instructors and may not be offered every semester.

Requirements for the Urban Planning and Policy Development degree program may be found at the Bloustein School website.

Students should refer to WebReg for information about special topics courses.

34:970:501 ***History and Theory of Planning (3)***
CORE COURSE
Surveys the history of urban planning, its major guiding and critical theories, and their relation to a broad range of contemporary issues faced by planners and policy makers. Focus on the intellectual foundation for students pursuing professional careers in urban planning.
Required for M.C.R.P. degree.

34:970:502 ***Theory and Practice of Public Informatics (3)***
ELECTIVE
Introduces core issues in public data analytics and presentation. Brings the theories and practices of public informatics together by investigating the methodological and contextual factors affecting specific application areas in urban planning, public policy, and administration.

34:970:508 ***Comprehensive Planning (3)***
ELECTIVE
Introduction to the principles and practice of physical planning in the United States. Workshop exercises, analyses, and readings are designed to provide a comprehensive and practical understanding of the physical planning and approval process, the elements of physical plans, and the data and analyses needed to prepare and review such plans.

34:970:509 ***Urban Economy and Spatial Patterns (3)***
CORE COURSE
Overview of economic, social, political, and geographic processes in and of cities. Topics include urban growth and decline; employment location and distribution; land and housing markets; class, racial, and ethnic patterns; urban policy making and community empowerment; cities and globalization.
Required for M.C.R.P. degree.

34:970:510,511 ***Graduate Planning Studio (3,3)***
CORE COURSE
Team projects in planning design; community and redevelopment planning; research and program development; field studies and problem analysis in local, regional, state, and national contexts. Development of comprehensive

solutions, plans, strategies, and recommendations for urban, suburban, and exurban areas and regions.
Required for M.C.R.P. degree. Enrollment during last year of coursework or after completing 24 credits except with instructor permission.

34:970:515 ***Basic Quantitative Methods (3)***
CORE COURSE
Introduction to applied statistics. Includes descriptive and inferential statistics, regression and correlation analysis, and computer-based analytic tools for planning analysis.
Required for M.C.R.P. degree.

34:970:516 ***Planning Methods (3)***
CORE COURSE
Introduction to planning tools widely used in planning practice. Topics include design of field research/observation studies, applied demographics, regional economics, infrastructure supply and demand, and introduction to fiscal impact and pro formas.
Required for M.C.R.P. degree.

34:970:517 ***Survey of Planning Law Principles (3)***
CORE COURSE
Introduction to legal and constitutional principles involved in the planning process: property law, zoning, subdivision, housing discrimination, eminent domain, variances, conditional use permits, nonconforming uses, aesthetics and signage, planned unit development, exactions, and growth management.
Required for M.C.R.P. degree.

34:970:520 ***Planning and Land-Use Administration (3)***
ELECTIVE
Practice-oriented course on state and local growth management, local planning and land-use administration, local affordable housing programs, and related topics.

34:970:521 ***Historic Preservation (3)***
ELECTIVE
Overview of the evolution of historic preservation in the United States, examining evolving history, regulations, programs, and economics. Includes historical review of American architectural styles

34:970:522 ***International Historic Preservation (3)***
ELECTIVE
Overview of the evolution of historic preservation in an international context, examining historical evolution, regulations, programs, and economics. Class connects electronically with an Italian university.

34:970:523 ***Environmental Law and Policy (3)***
ELECTIVE
Legal principles involved in protecting the environment, including air, water, and noise pollution; control of population growth and distribution; and ecological aspects of land-use control.

34:970:524 ***Ethics in Planning and Policy (3)***
ELECTIVE
This course examines the moral justification for policy and planning, the analytical use of moral language to

demonstrate it, and a feasible conception of the common good to negotiate the moral tensions, typical in policy and planning, between public and private interests.
Cross-listed with 34:833:524. Credit not given for this course and 34:833:524.

34:970:525 ***Applied Multivariate Methods (3)***
ELECTIVE
Multivariate statistical methods used to analyze land-use, environmental, public health, and other large data sets.
Credit not given for this course and 34:833:525.

34:970:527 ***Affordable Housing (3)***
ELECTIVE
Presents an overview of the idea and history of affordable housing and what it means for housing to be affordable and to whom.

34:970:528 ***Housing Economy and Markets (3)***
ELECTIVE
Overview of demographic and political economic shifts and changing housing need/demand parameters, evolution of housing supply/demand patterns, and cost trends and market interrelationships. Historic trend lines and future directions evaluated. Current issues and policies examined.

34:970:529 ***Principles of Housing (3)***
ELECTIVE
Housing and development policy as it has evolved historically and as it is being practiced currently on the federal, state, and local levels. Basic economic factors affecting housing, political context, and social outcomes.

34:970:530 ***International Urbanization and Housing Issues (3)***
ELECTIVE
This course introduces and examines the causes, practices, dynamics, and consequences of urbanization from an international and comparative perspective. It also pays special attention to topics of human settlements, informality, housing policy, housing equity, land tenure, displacement, and real estate markets.

34:970:532 ***Bridging Public Health and Urban Planning (3)***
ELECTIVE
This course seeks to build literacy among planners about public health issues. No health background is necessary. Explores how city planning decisions affect people.

34:970:542 ***Community Organizing (3)***
ELECTIVE
This course explores the socioeconomic and diverse cultural, political, and power-sharing dynamics within communities. A special focus is on the comparative international role of community leaders, pressure groups, social movements, and grassroots practices.

34:970:550 ***Introduction to Transportation (3)***
ELECTIVE
Introduces topics in U.S. transportation policy such as addressing congestion, managing parking, operating transit service, and adapting to new developments like autonomous vehicles.

34:970:551 ***Transportation and Land Use (3)***
ELECTIVE
Topics include connections between land-use development and transportation, including economic theory. Design elements associated with development, travel impacts, parking, and transit-oriented development are covered.

34:970:552 ***Transportation and Environment (3)***
ELECTIVE
This course focuses on the key environmental issues in transportation and the tools to address them. Students consider local and global examples, examine individual and collective actions, and evaluate policy tools.

34:970:553 ***Methods of Transportation Planning (3)***
ELECTIVE
Introduces quantitative methods of analysis employed in contemporary planning practice and critiques them. Includes travel and parking demand analysis, "four-step" urban transportation planning methodology, mode choice analysis, and others.

34:970:554 ***Transportation Economics and Finance (3)***
ELECTIVE
Introduction to microeconomic theory in transportation economics, demand and supply of travel, accessibility and agglomeration benefits, congestion costs, cost/benefit analysis, including the valuation of time and safety, and how transportation is financed.

34:970:555 ***Transportation and Equity (3)***
ELECTIVE
Research-oriented course for graduate students, focusing on intersection of transportation and social justice. Covers major debates in the field and other topics including those derived from students' research projects.

34:970:556 ***Bicycle and Pedestrian Planning (3)***
ELECTIVE
Introduces strategies for promoting safe and equitable active travel including hard interventions, soft interventions, and how to communicate with the public, evaluate interventions, and secure funding.

34:970:558 ***Public Transit Planning and Management (3)***
ELECTIVE
Overview of transit policy and planning issues with particular reference to the United States. Includes planning and operations methods across conventional fixed route transit and paratransit systems, and newer concepts such as quality of service and the community transit system approach.

34:970:560 ***Freights and Ports (3)***
ELECTIVE
Introduces the challenges of establishing policy goals for freight that balance community considerations, safety and security, environmental considerations, and economic development.

34:970:561 ***Social Justice Planning and Public Policy (3)***
ELECTIVE
Survey of approaches to social justice and their application in planning and public policy. Examines challenges to achieving social justice under conditions of structural inequality, multiculturalism, globalization, and prevailing systems of governance.

34:970:562 ***Community Economic Development (3)***
ELECTIVE
Survey of the history, current practices, tensions, and institutions in the field of community economic development. ***Credit not given for both this course and 34:833:611.***

34:970:563 ***Community Development (3)***
ELECTIVE
Overview of the history and evolution, institutions, and tensions in community development. Examines community development organizations, democratic participation, community development finance, and other areas such as housing.

34:970:571 ***Industrial Ecology (3)***
ELECTIVE
Explores the metaphor of industrial ecology and tests whether it is a framework for implementing sustainable development and environmental decisions. Evaluates research and practice in industrial ecology across scales.

34:970:572 ***Green Building (3)***
ELECTIVE
This graduate seminar focuses on the green building phenomenon. It provides a multidisciplinary, rigorous, and practical introduction to green building.

34:970:581 ***Gender and International Development (3)***
ELECTIVE
Overview of competing theories of development planning and feminist critiques of current theory and planning practice. Examines gender dimensions of demography, environmental problems, organization of space, and gender research, training programs, and evaluation projects.

34:970:585 ***Tourism Planning (3)***
ELECTIVE
Analysis of the largest industry by value globally. Rise of mass tourism and marketing of tourism destinations. Economic, environmental, social, and political impacts of tourism nationally and internationally.

34:970:590 ***Graphical Communication and Design Representation (3)***
ELECTIVE
Introduces digital and traditional drawing techniques to produce graphic representations for urban design and planning and to understand the role of graphics in the planning and decision-making process. Students learn how to compose a visual story about their plan in an animated presentation.

34:970:591 ***Introduction to Geographic Information Systems for Planning and Policy (3)***
ELECTIVE
Introduces basic concepts of geographic information science (GIS), thematic mapping and cartography, geospatial data acquisition, and geoprocessing.
Pre- or corequisite: 34:970:515 or equivalent.

34:970:592 ***Topics in Geographic Information Science (3)***
ELECTIVE
Includes advanced geographic information science (GIS) topics including suitability, network and 3D analysis, geospatial data models, and other recent applications.
Prerequisite: 34:970:591 or permission of instructor.

34:970:593 ***Design Representation and Visualization (3)***
ELECTIVE
Digital rendering, visualization, and 3D modeling techniques are used to explore precedents, visualize data, and envision design options. Students use Rhino and Advanced Photoshop techniques to enhance photorealistic urban images in final image board presentations.

34:970:594 ***Program Evaluation (3)***
ELECTIVE
The procedures and techniques used to scientifically document the implications of professional interventions. Conceptual, measurement, and analytic tools including activities and objectives, monitoring and measurement, design of monitoring and social experiments, and impact analysis.

34:970:600 ***Introduction to Urban Design for Planners (3)***
ELECTIVE
Introduces the fundamentals of urban planning and urban design through graphic and presentation exercises: scales, hand drawings, spatial relationships, street and building types and site plans, and a computer-drawn urban infill project.
Prior design training not necessary.

34:970:601 ***Urban Design for Climate Adaptation (3)***
ELECTIVE
Encourages critical thinking to realize design's role in policy making, planning, and urban design. Considers design as a synthesis of a composition of objects in a field, processed and visualized data, and community values.
Prior design training not necessary.

34:970:604 ***Land Development Practice (3)***
ELECTIVE
Emphasizes private decision-making and development, publicly supported development, and the impact of public control on private development.

34:970:605 ***Planning Real Estate Analysis (3)***
ELECTIVE
Provides students with the basics of real estate analysis: fiscal analysis/impact fees, appraisal skills, financial analysis, and hazard mitigation/adaptation strategies.

34:970:607 ***Communicating Quantitative Information (3)***
ELECTIVE
Introduces strategies for communicating quantitative research for academic, applied professional, and lay audiences. Applies quantitative writing principles and reinforces concepts on statistical methods, research design, and research writing.

34:970:608 ***Health and Human Rights (3)***
ELECTIVE
Covers human rights law, its uses in wartime, the theoretical reframing of women's rights, and its application to health and health care.

34:970:609 ***Social Policy in Developing Nations (3)***
ELECTIVE
Social policy issues and the priorities of developing countries and their ability to achieve balanced economic and social development. Sectors covered include food, health, housing, energy, and education.

34:970:615,616 ***Directed Study in Urban Planning (3,3)***
ELECTIVE
Directed study with an individual faculty member, with approval of the program director.

34:970:618 ***Environmental Planning and Management (3)***
ELECTIVE
Overview of the institutional, economic, normative, and technical factors underlying environmental planning and policy. Topics include environmental decision-making, stakeholders, methods, and crosscutting challenges. Case studies and in-class exercises put topics into local and global context.

34:970:619 ***Environmental Economics and Policy (3)***
ELECTIVE
The role of economics in environmental issues and, especially, in the formation of environmental policy including environmental problems in air, water, land use, and natural environments.
Credit not given for both this course and 34:833:619.

34:970:620 ***Energy Sustainability and Policy (3)***
ELECTIVE
Examines energy policy and planning through a timely, critical, and practical approach designed to give students an insight into the factors that shape energy policy.
Credit not given for both this course and 34:833:680.

34:970:621 ***Infrastructure Planning (3)***
ELECTIVE
Survey of infrastructure systems such as water, sewer, stormwater, energy, transportation, and communications. The course considers the relationship between infrastructure, equity, land development, and population growth.

34:970:622 ***Urban Redevelopment (3)***
ELECTIVE
Survey of urban redevelopment activities in the United States, from the 20th century onward. Examines urban renewal, public housing, historic preservation, business improvement districts, targeted incentives, and public and private partnerships. Overviews the legal and land use framework for redevelopment.

34:970:624 ***Planning, Public Policy, and Social Theory (3)***
ELECTIVE
Examines the intersection of planning and public policy through the theories and practices of the two fields. Focus on the policy-analytic roles played by the actors particularly as they relate knowledge to action.
Credit not given for this course and 16:762:624 and 34:833:624.

34:970:627 ***Hazard Mitigation Planning (3)***
ELECTIVE
Presents the requirements of the Stafford Act, including the use of risk assessment, mitigation, resilience, public participation, and risk communication in developing hazard mitigation plans. Each student writes a paper and creates a presentation slide deck about a specific hazard mitigation plan.

34:970:630 ***Discrete Choice Methods (3)***
ELECTIVE
This course begins with a review of linear regression, but focuses mainly on the statistical methods for analysis of categorical dependent variables. Methods will include binary logistic and probit regression, ordinal logit and probit, and multinomial and conditional logit models.

34:970:631 ***Communicating Science to Decision-Makers (3)***
ELECTIVE
Introduces principles and strategies for effective engagement with stakeholders and decision-makers on science-informed planning topics. Build proficiency in stakeholder engagement and communication.

34:970:633 ***Demography and Population Studies (3)***
ELECTIVE
Basic demographic concepts, methods, and their application. Population growth, mortality, fertility, migration, and marriage patterns.

34:970:634 ***Machine Learning for Public Informatics (3)***
ELECTIVE
Introduces programming and statistical tools used in planning and public policy data analysis. Course also supports development of conceptual and communication skills.
Credit not given for this course and 34:833:633.

34:970:636 ***Internship in Urban Planning (3)***
ELECTIVE
Internship in a governmental, nonprofit, or private organization focusing on substantive urban planning issues.

34:970:643 ***Major Debates in International Development (3)***
ELECTIVE
Begins with an introduction to development and foreign aid and is followed by major debates that are shaping discussion on international development. Topics will vary according to their timely nature.

34:970:644 ***International Economic Development (3)***
ELECTIVE
Theories, techniques, administration, information systems, and core processes of regional planning, including techniques for regional disaggregation of national plans, regional income and multiplier, input-output table, shift-share analysis, economic base analysis, and project evaluation.

34:970:645 ***Regional Development (3)***
ELECTIVE
Theories of development, underdevelopment, and uneven development in developing countries and regions in relation to the international economic order; role of multinational corporations and international development agencies; national and regional development strategies and policies; and emerging alternative perspectives.

34:970:646 ***International Infrastructure Restructuring (3)***
ELECTIVE
Explores international infrastructure development in terms of the processes and tools used to determine whether to participate in and to develop projects.

34:970:651 to 674 ***Seminars in Urban Planning (3 each)***
ELECTIVE
Lectures and special problems on current issues.

Undergraduate Programs (EJB-U)

UNDERGRADUATE PROGRAMS

Programs of Study

Course Listing and Explanation of Codes

Undergraduate Programs of Study (EJB-G)

UNDERGRADUATE PROGRAMS OF STUDY

The Edward J. Bloustein School of Planning and Public Policy offers undergraduate programs of study leading to the bachelor of arts (B.A.) degree in city and regional planning and bachelor of science (B.S.) degrees in public health, public policy, urban planning and design, and health administration. These degrees are issued jointly by the Edward J. Bloustein School of Planning and Public Policy and the Rutgers University-New Brunswick undergraduate schools.

The Bloustein School also offers undergraduate direct admit programs leading to a B.A. in city and regional planning or a B.S. in public health, public policy, urban planning and design, and health administration. These degrees are issued solely by the Edward J. Bloustein School of Planning and Public Policy.

Minors are also offered in all of the Bloustein School's areas of study, as well as a minors in disability studies, health equity, medical ethics and policy, public administration and management, and urban studies.

Exceptional, well-prepared students may apply to pursue dual-degree programs in the following areas: B.S./M.P.H. for public health majors, B.S./M.P.P. for public policy majors, or B.A. or B.S./M.C.R.P. for city and regional planning or urban planning and design majors.

For more information about undergraduate programs of study, see the Bloustein School Undergraduate Programs website.

Undergraduate Course Listing and Explanation of Codes (EJB-U)

UNDERGRADUATE COURSE LISTING AND EXPLANATION OF CODES

The number preceding each course title is divided into three parts. The first two digits are the administrative code (standing for a faculty or a school), the next three digits are the subject code, and the final three digits are the course code.

Administrative Codes

The undergraduate code for the Bloustein School is 10.

Subject Codes

A subject code comprises the third through fifth digits in all course numbers and indicates the subject matter of the course. Courses with the following subject codes are found in the Bloustein School Undergraduate Catalog pages linked below:

MAJORS AND MINORS

170 City and Regional Planning

501 Health Administration

762 Planning and Public Policy (major and minor discontinued as of October 2024)

832 Public Health

833 Public Policy

971 Urban Planning and Design

MINORS ONLY

304 Disability Studies

386 Health Equity

652 Medical Ethics and Health Policy

843 Public Administration and Management

975 Urban Studies

Course Codes

The course code comprises the sixth, seventh, and eighth digits in all course numbers. Course codes from 100 to 299 indicate introductory and intermediate undergraduate courses. Codes from 300 to 499 indicate advanced undergraduate courses.

Two course codes separated by a comma indicate that each semester may be taken independently of the other (example: 10:832:491,492). Two course codes separated by a hyphen indicate that satisfactory completion of the first semester is a prerequisite to the second semester; the first semester may be taken for credit without taking the second, except where a statement is added to indicate that both semester courses must be completed in order to receive credit.

Credits awarded for the successful completion of each course are indicated in parentheses following the course title. The notation BA indicates that the number of credits is determined by arrangement with the department offering the course.

Additional Degrees: Graduate Public Health (EJB-G)

ADDITIONAL DEGREES: GRADUATE PUBLIC HEALTH

The following program is administered by the Bloustein School:

- Bachelor of Science in Public Health (B.S.)

All graduate programs in public health are administered by the Rutgers School of Public Health unless otherwise noted:

- Master of Public Health (M.P.H.)
- Master of Science (M.S.)
- Bachelor of Science and Master of Public Health (B.A./M.P.H) -- *jointly administered with the Bloustein School*
- Juris Doctor and Master of Public Health (J.D./M.P.H.)
- Master of Public Health and Master of Social Work (M.P.H./M.S.W.)
- Master of Public Health and Master of Business Administration (M.P.H./M.B.A.)
- Master of Public Health and Master of Biomedical Science (M.P.H./M.B.S.)
- Master of Public Health and Master of Science in Physician Assistant (M.P.H./M.S.P.A.)

- Master of Public Health and Master of Public Policy and (M.P.H./M.P.P.) -- *jointly administered with the Bloustein School*
- Doctor of Philosophy (Ph.D.)
- Doctor of Public Health (Dr.P.H.)
- Doctor of Medicine and Master of Public Health (M.D./M.P.H.)
- Doctor of Pharmacy/Master of Public Health (Pharm.D./M.P.H.)
- Doctor of Psychology and Master of Public Health (Psy.D./M.P.H.)
- Certificate Programs

About the Degrees (EJB-G)

ABOUT THE DEGREES

The master of public health (M.P.H.) degree provides students with a clear understanding of the roles of the core disciplines in public health. Graduate study in public health is offered through Rutgers School of Public Health. Faculty from the Edward J. Bloustein School of Planning and Public Policy have been central in developing the graduate program and maintain a strong interest in the program through teaching and research.

In partnership with Rutgers University-New Brunswick, the Rutgers School of Public Health offers highly-qualified undergraduate students the opportunity to begin graduate study during their undergraduate years, thereby accelerating the M.P.H. degree by requiring approximately three-to-five additional semesters beyond the bachelor's degree. This is not a concurrent degree program. Students earn their bachelor's degree first and then the M.P.H.

The bachelor's/master's program is open to all undergraduate majors attending Rutgers University-New Brunswick.

Exceptional, well-prepared students from any major with at least 60 credits and a cumulative GPA of 3.2 or better, and who wish to pursue graduate studies at the Rutgers School of Public Health are encouraged to seek advising about the Accelerated (B.A./M.P.H. or B.S./M.P.H.) program.

Degree Options in Public Health (EJB-G)

DEGREE OPTIONS IN PUBLIC HEALTH

The following program is administered by the Edward J. Bloustein School of Planning and Public Policy:

- Bachelor of Science in Public Health (B.S.)

All graduate programs in public health are administered by the School of Public Health:

- Master of Science (M.S.)
- Master of Public Health (M.P.H.)
- Bachelor of Arts and Master of Public Health (B.A./M.P.H.)
- Bachelor of Science and Master of Public Health (B.A./M.P.H)

- Juris Doctor and Master of Public Health (J.D./M.P.H.)
- Master of Public Health and Master of Business Administration (M.P.H./M.B.A.)
- Master of Public Health and Master of Science in Physician Assistant (M.P.H./M.S.P.A.)
- Master of Public Policy and Master of Public Health (M.P.P./M.P.H.)
- Doctor of Philosophy (Ph.D.)
- Doctor of Public Health (Dr.P.H.)
- Doctor of Medicine and Master of Public Health (M.D./M.P.H.)
- Doctor of Osteopathic Medicine and Master of Public Health (D.O./M.P.H.)
- Doctor of Psychology and Master of Public Health (Psy.D./M.P.H.)
- Certificate Programs

Admission and Information

Admission and Information (EJB-G)

ADMISSION AND INFORMATION

For general information, admission, and/or other questions about the master of public health, doctor of public health, or doctor of philosophy in public health, please contact the School of Public Health at 732-235-4646 or online.

Administration, Centers, and Faculty (EJB-G)

ADMINISTRATION, CENTERS, AND FACULTY

Office of the Dean

Program and Center Directors

Emeritus

Faculty

Associated Faculty

Fellows

Office of the Dean (EJB-G)

OFFICE OF THE DEAN

Stuart Shapiro, *Professor and Dean*

Jazmine Roberts, *Clerical Assistant*

Katie Cung, *Assistant to the Dean*

Clinton J. Andrews, *Distinguished Professor and Associate Dean for Research*

Theresa Kirby, *Associate Dean of Administration*

Robert B. Noland, *Distinguished Professor and Associate Dean of Faculty*

Julia Sass Rubin, *Professor and Associate Dean of Academic Programs*

Jennifer Senick, *Assistant Dean for Research*

Patricia O'Brien-Richardson, *Associate Teaching Professor; Chief Diversity, Equity, and Inclusion Officer*

Samantha Brannigan, *Research Specialist for Assessment and Accreditation*

Student and Academic Services

Graduate Program

Stephen D. Weston, *Assistant Dean of Academic Administration*

Christina Torian, *Assistant Dean of Undergraduate Education*

Lynn Astorga, *Director of Student Recruitment and Adjunct Faculty*

Cheryl Egan, *Assistant Director for Career Management*

Andrea Garrido, *Assistant Director for Career Management*

Courtney Culler, *Associate Director for Graduate Student Services*

Greg Marrero, *Senior Counselor for Graduate Student Services*

Natashia Huff, *Assistant Director, Undergraduate Student Services*

Jessica Reyes, *Student Counselor, Undergraduate Student Services*

Mekhi Rivers, *Student Counselor, Undergraduate Student Services*

Delvin Thorpe, *Student Counselor and Recruiter, Undergraduate Student Services*

Marie O'Brien, *Administrative Assistant, Student Services*

Business Services

Madelaine Corcoran, *Director, Business Services and Human Resources*

Keri Ferreira, *Department Administrator*

Olufunke Odukoya, *Business Manager*

Katie Cung, *Business Assistant*

Vivian Percoco, *Office Assistant*

Communications and Marketing

Karyn Olsen, *Director, Communications, Marketing & Public Relations*

Tamara Swedberg, *Communications, Social Media, and Website Specialist*

Development

Janet Cole, *Director of Development*

Madison Welch, *Alumni and Development Specialist*

Event Support

Stephanie Kose-Crozier, *Events Manager*

Iram Faisal. *Administrative Assistant*

Facilities

Thomas W. Calhoun, *Assistant Campus Facilities Manager*

Information Technology

Joseph Abraham , *Director, Information Technology Services*

Robert Urbanowicz, *Systems Administrator*

Michael Samman, *Lead Instructional Designer*

Ariel Sanchez, *Unit Computing Manager*

Ravi D'Elia, *Unit Computing Manager*

Program and Center Directors (EJB-G)

PROGRAM AND CENTER DIRECTORS

ACADEMIC PROGRAMS

Undergraduate Programs
Christina Torian, Assistant Dean of Undergraduate Education

Doctoral Program in Planning and Public Policy
Michael Smart, Director

Public Policy Program
Julia Sass Rubin, Director

Urban Planning and Policy Development Program
Mi Shih, Director

Health Administration Program
Ellen T. Kurtzman, Director

Informatics Program
Jim Samuel, Executive Director

RESEARCH CENTERS AND INSTITUTES

Bloustein Center for Survey Research
Nancy Wolff, Director

Center for Urban Policy Research
Clinton J. Andrews, Director
David Listokin, Associate Director
Jennifer Senick, Executive Director

- Bloustein Local
- Built Environment and Green Building (formerly Rutgers Center Green Building)
- Infrastructure Networks (formerly Center for Energy, Economic & Environmental Policy)
- Environmental Analysis and Communications Group
    - Planning Healthy Communities Initiative
    - Sustainable Raritan River Initiative
- Urban Policy
- Rutgers Economic Advisory Service (R/ECON)

John J. Heldrich Center for Workforce Development
Carl Van Horn, Director
Andea Hetling, Associate Director

New Jersey State Policy Lab
Elizabeth Cooner, Executive Director

- Center for Negotiation and Conflict Resolution

Rutgers Urban and Civic Informatics Lab
Piyushimita "Vonu" Thakuriah, Director

Alan M. Voorhees Transportation Center
Robert B. Noland, Director

- National Transit Institute
  Billy Terry, Director
- New Jersey Travel Independence Program (NJTIP @ Rutgers)
  Karen Alexander, Director
- New Jersey Bicycle & Pedestrian Resource Center
- New Jersey Safe Routes to School

Ralph W. Voorhees Center for Civic Engagement
Kathe Newman, Director

Emeritus (EJB-G)

EMERITUS

Richard K. Brail
Professor, Emeritus

Robert W. Burchell
Distinguished Professor, Emeritus

Alan Cander
Associate Teaching Professor, Emeritus

Raphael J. Caprio
University Professor, Emeritus

Salah S. El-Shakhs
Distinguished Professor, Emeritus

Susan Fainstein
Professor, Emerita

Michael R. Greenberg
Distinguished Professor, Emeritus; former Interim Dean

Ann Marie Hill
Associate Professor of Practice, Emerita

Patrick Hill
Associate Teaching Professor, Emeritus

Briavel Holcomb
Professor, Emerita

Vincent D. Joseph
Professor of Practice, Emeritus

Michael L. Lahr
Distinguished Research Professor, Emeritus

Robert W. Lake
Professor, Emeritus

Nancy Mantell
Retired Director, Rutgers Economic Advisory Service (

Henry J. Mayer
Faculty Fellow, Emeritus

Michael J. McDonough
Retired Associate Teaching Professor

Jane Miller
Professor, Emerita

Anton Nelessen
Professor, Emeritus

Frank J. Popper
Professor, Emeritus

John Pucher
Professor, Emeritus

Dona Schneider
Professor, Emerita

Meredeth Turshen
Professor, Emerita

Marc D. Weiner
Associate Research Professor, Emeritus

Cliff Zukin
Professor, Emeritus

Faculty (EJB-G)

FACULTY

Amy E. Abruzzi, Associate Teaching Professor; Undergraduate Public Health Program Coordinator
B.A., M.L.S., Rutgers; M.A., M.A., New York; Ph.D., M.P.H., UMDNJ-School of Public Health
Teaching and research interests include the prevention of chronic illness and comorbidities; the geography of health, especially urban/rural issues in the United States as well as globally; and environmental and occupational contributions to disease disparities.

Hooshang Amirahmadi, Distinguished Service Professor
B.A. Tabriz (Iran); M.S., Dallas; Ph.D., Cornell
Teaching and research interests include national economic development policies and planning; globalization and international relations; foreign investment and trade; regional economic development; and industrial and technology policy.

Clinton J. Andrews, Distinguished Professor and Associate Dean for Research
Sc.B., Brown; Ph.D., Massachusetts Institute of Technology
Teaching and research interests include the use of technical knowledge in environmental decision making; environmental management; energy policy; and social science aspects of industrial ecology.

Juan Ayala, Associate Professor of Practice
B.S., Rutgers; M.Arch., NJIT
Teaching and research interests include urban design; community participation and visioning; expansion of the semipublic realm; 3-D visualization and image sequencing; critical thinking, decision making and design; and parametric design development in planning.

Bernadette V. Baird-Zars, Assistant Professor
B.A., Swarthmore; M.C.P., MIT; Ph.D., Columbia
Teaching and research interests include land use; local government; implementation and enforcement; transition and uncertainty; environmental justice; institutional analysis; action/project-based learning; longitudinal data; and planning ethics and theory.

Francis Barchi, Associate Professor
B.A., Smith; Ph.D., M.B.E., M.Sc., Pennsylvania
Teaching and research interests include global health ethics; gender-based violence and women's health in sub-Saharan Africa; ethical issues in international research; capacity-building in research ethics in low- and middle-income countries; and ethics education.

Marci Berger, Associate Teaching Professor
B.A., Cornell; M.A., Rutgers; M.P.H., UMDNJ/RWJ Medical School; Ph.D., Rutgers
Teaching and research interests include health policy; public policy; reproductive rights; and poverty in the United States.

Soumitra Bhuyan, Associate Professor and Executive Director, Master of Health Administration Program
M.P.H., Western Kentucky; Ph.D., University of Nebraska Medical Center College of Public Health
Teaching and research interests include chronic disease management; health information systems; and population health.

Debra Borie-Holtz, Associate Teaching Professor
B.A., M.P.A.P., Ph.D., Rutgers
Teaching and research interests include policy formation and implementation; legislative leadership and governing; federal and state regulatory process; women in government; and survey research design, delivery, and data analysis.

Joel Cantor, Distinguished Professor; Director, Center for State Health Policy
B.A., Wisconsin; Sc.D., Johns Hopkins
Teaching and research interests include healthcare financing and delivery; healthcare policy; and access to health services by low-income populations.

Yen-Tyng Chen, Assistant Professor
B.S., M.S., National Taiwan; Ph.D. Emory
Teaching and research interests include HIV status-neutral care; substance use; mental health; social determinants of health; place-based epidemiology; and network epidemiology.

Céu Cirne-Neves, FACHE, Assistant Teaching Professor
B.A., Rutgers; M.P.A., Fairleigh Dickinson; Lean Six Sigma Green Belt, Villanova
Teaching and research interests include leadership development and mentorship; strategic planning & performance excellence; population health (alignment of public health, healthcare, and social services); community needs assessment, health equity and systems alignment; operations management and patient safety; employee engagement and patient experience; diversity and inclusion.

Jocelyn Elise Crowley, Professor
B.A., Cornell; M.P.P., Georgetown; Ph.D., Massachusetts Institute of Technology
Teaching and research interests include American social policy; family policy; and women and politics.

William Cundiff, Assistant Teaching Professor
B.S., MBA, Wagner; J.D., Touro College Law Center
Teaching and research interests include marketing, artificial intelligence, finance, health administration, health policy, and U.S. health systems.

Thomas P. Davis, Assistant Teaching Professor
B.A., Villanova; M.C.R.P., Rutgers; M.P.A., Columbia
Teaching and research interests include comparative health policy; gun safety; social theory; and ethics.

James DeFilippis, Professor
B.A., Vermont; M.A., Ph.D., Rutgers
Teaching and research interests include urban political economy and political philosophy; community development theory and practice; unregulated work and the informal economy; and immigration.

Derek DeLia, Associate Professor
B.A., Rutgers-Camden; M.A., Ph.D., Cornell
Teaching and research interests include healthcare payment and delivery reform; federal and state health policy; performance measurement for accountable care organizations (ACOs); shared savings arrangements; coordination of care for complex patients; emergency medical care; healthcare access; and health insurance coverage.

Aakanksha Deoli, Instructor of Teaching and Undergraduate Internship Coordinator
M.H.A., Rutgers
Teaching interests include maternal health; population health; healthcare disparities; healthcare management; and process improvement.

Barbara Faga, Professor of Professional Practice in Urban Design
B.S., Michigan State; Ph.D., Georgia Institute of Technology
Teaching and research interests include participatory planning; landscape architecture; planning practice and theory; zoning; and urban design.

Anita Franzione, Associate Teaching Professor
B.A., M.P.A., NYU; Dr.P.H., Columbia
Teaching and research interests include U.S. health care systems; aging; long-term care; quality improvement in patient care in various settings; and public health initiatives.

Irina Grafova, Associate Professor
B.S., Moscow State; M.A., New Economic School (Moscow, Russia); Ph.D., University of Michigan
Teaching and research interests include socio-economic inequalities in health; financial strain; financial toxicity of cancer; health policy; healthcare spending; and neighborhoods.

Andrea Hetling, Professor; Associate Director, Heldrich Center for Workforce Development
B.A., Columbia; Ph.D., Maryland
Teaching and research interests include anti-poverty and human services policy; Temporary Assistance for Needy Families (TANF) and the safety net; equity analysis of public policies; social policy implementation; and intimate partner violence.

James W. Hughes, University Professor and Dean Emeritus, Edward J. Bloustein School of Planning and Public Policy
B.S., M.C.R.P., Ph.D., Rutgers
Teaching and research interests include demographics and housing; regional and New Jersey economics; development patterns and transportation.

Carmelo Ignaccolo, Assistant Professor
BEng + MArch, University of Catania; Master's of Architecture and Urban Design (MAUD), Columbia; PhD, Urban Planning, Massachusetts Institute of Technology
Teaching and research interests include spatial inequalities, environmental justice, urban history and historical cartography, heritage and tourism, port cities and waterfronts, climate resilience, digital humanities, shrinking towns, sensory urbanism, data co-creation and participatory mapping, and the Mediterranean region.

Will Irving, Associate Professor of Practice
B.A., University of California Santa Cruz; M.P.P., Rutgers, Edward J. Bloustein School of Planning and Public Policy
Teaching and research interests include economic policy; historical and current tax trends; economic forecasting; economic impact analysis; and quantitative economics.

Radha Jagannathan, Professor
B.A., School of Economics, Delhi (India); M.A., Rutgers; Ph.D., Princeton
Teaching and research interests include school-to-work transition; social capital and community development; culture and human capital development; international comparative studies on youth; poverty, public welfare, and child welfare; and evaluation of social programs.

Jane Kaye, Associate Professor of Teaching
B.A., Pennsylvania; M.B.A., Boston
Teaching and research interests include budget and finance; health economics; health policy; strategic planning; business development; and healthcare management and operations.

Susan Krum, Associate Professor of Teaching
B.S., East Stroudsburg; M.A., Temple; Au.D., Salus
Teaching and research interests include strategic planning; business development; healthcare management; healthcare operations; budget and finance; organizational strategy; and population health.

Ellen Kurtzman, Professor
B.S.N., Pennsylvania School of Nursing; M.P.H., Johns Hopkins; Ph.D., George Washington
Teaching and research interests include the impact of federal, state, and institutional policies on health care delivery; cannabis use and cannabis policy; the role of the health care workforce in achieving higher value care; team-based care; quality of care and the services delivered by nurse practitioners and physician assistants; the influence of performance-based payment programs on practitioner behavior.

Zoe Lindenfeld, Assistant Professor
B.S., Cornell; Ph.D., NYU School of Global Public Health
Teaching and research interests include health policy and services; mitigating factors that perpetuate health inequities for individuals with substance use disorders; mixed-methods research designs; operationalizing harm reduction as an approach to care within clinical settings; racial disparities in the availability of hospital-based substance use treatment; and disparities in the distribution of services for substance use disorders.

David Listokin, Distinguished Professor; Director, Center for Urban Policy Research
B.A., CUNY (Brooklyn); M.C.R.P., Ph.D., Rutgers
Teaching and research interests include housing and land development; development impact assessment; and historic preservation.

Alexandra Lopez, Associate Teaching Professor
B.A., Rutgers; M.A., Kean
Teaching and research interests include clinical supervision in addictions counseling and cultural competency; and clinical service provision within the Latino community.

Kathe Newman, Professor and Director, Ralph W. Voorhees Center for Civic Engagement
B.A., Manhattan; Ph.D., CUNY
Teaching and research interests include urban change, revitalization, and community development; community food planning; housing policy and finance; and economic development.

Fereydoun Nikpour, Professor of Teaching
B.A., M.A., National University of Iran (NUI); M.C.R.P., Ph.D., Rutgers
Teaching and research interests include statistical research methods; national spatial development planning; development of metropolitan areas in developing countries; and methods of regional analysis.

Robert B. Noland, Distinguished Professor; Associate Dean of Faculty; Director, Alan M. Voorhees Transportation Center
B.A., California; M.Sc., Ph.D., Pennsylvania
Teaching and research interests include the impacts of transport planning and policy on environmental outcomes; micro-simulation of pedestrian-vehicle interactions; non-motorized transportation; and safety analysis.

Patricia O'Brien-Richardson, Associate Teaching Professor and Chief Diversity, Equity and Inclusion Officer
B.A., SUNY Old Westbury; M.S.Ed., CUNY Brooklyn; Ph.D. Rutgers
Teaching and research interests include urban public health disparities; education policy; social justice; race, class, and gender policies.

Emily Parker, Assistant Professor
B.A., American; M.A., Ph.D., Cornell
Teaching and research interests include health and social policy; poverty and inequality; gender and family; and spatial demography.

Mark Paul, Assistant Professor
B.A., Ph.D., UMass Amherst
Teaching and research interests include political economy; environmental policy; and inequality of race, gender, and class.

Will B. Payne, Assistant Professor
A.B., Harvard; Ph.D., California (Berkeley)
Teaching and research interests include urban geography, geographic information science (GIS), urban informatics, spatial data science, critical and feminist GIS, food studies, and gentrification studies.

Laura Peck, Associate Professor and Principal Faculty Fellow, Heldrich Center for Workforce Development
B.A., Arizona State University, M.P.A., M.Phil., Ph.D, New York University, Robert F. Wagner Graduate School of Public Service
Teaching and research interests include social welfare and employment policies and programs, and evaluation research methods and policy analysis.

Katie Pincura, Associate Teaching Professor
B.A., Georgia; M.A., Adler-Vacouver, B.C.; M.P.H., Armstrong State; D.P.H. Leadership, Georgia Southern
Teaching and research interests include community health and social services management; health policy; healthcare workforce issues in underserved communities such as the uninsured, people with intellectual and developmental disabilities, people living with HIV, and those impacted by the opioid epidemic.

Ronald Quincy, Professor of Professional Practice
B.A., M.A., University of Detroit; Ph.D., Michigan State
Teaching and research interests include nonprofit sector leadership and governance; fundraising, institutional branding, and grantsmanship; organizational strategy; human capital, performance, and executive coaching; international civil society organizations; and international affairs.

Kelcie Ralph, Associate Professor
B.S., Alaska (Anchorage); M.E.P., Cambridge; M.C.D.S.S., London School of Economics; Ph.D., California (Los Angeles)
Teaching and research interests include travel behaviors of special populations; and causes and consequences of the decline in driving among young adults.

Andrea Restrepo-Mieth, Assistant Professor
B.A. SUNY New Paltz; M.P.P., National University of Singapore; Ph.D., Cornell
Teaching and research interests include planning institutions; politics of planning for water and sanitation; grassroots involvement in urban governance; cities and metropolitan areas in the Global South; progressive planning; and climate change adaptation.

Julia Sass Rubin, Associate Professor, Associate Dean for Academic Administration, and Director, Program in Public Policy
A.B., Harvard (Radcliffe); M.B.A., A.M., Ph.D., Harvard
Teaching and research interests include education policy; social justice; nonprofit advocacy; grassroots mobilization; and community economic development.

Melinda Rushing, Assistant Professor
B.A., M.S. Social Work, Houston; Ph.D., Texas Health Sciences Center at Houston, School of Public Health
Teaching and research interests include data science and social work; inequities in health services delivery among individuals living with chronic illnesses; trends in health behavior; health disparities and their effect on health outcomes.

Hal Salzman, Professor and Senior Faculty Fellow, John J. Heldrich Center for Workforce Development
B.A., California (Santa Cruz); M.A., Ph.D., Brandeis
Research interests include workforce development and labor markets; science and engineering workforce policy; socioeconomic analysis of Arctic communities and employment; effects of technological change; and low-wage workers, internal labor markets, and corporate restructuring.

Jim Samuel, Associate Professor of Practice and Executive Director, Master of Public Informatics
M.Arch, Sir J.J. College of Architecture, an affiliate of the Royal Institute of British Architects; M.B.A., Arizona State; Ph.D., Baruch
Teaching and research interests include artificial intelligence; data science; social media analytics; AI bias and ethics; and computer simulation modeling.

Eric Seymour, Associate Professor
B.A., Florida Atlantic; M.U.R.P., Florida; Ph.D., Michigan
Teaching and research interests include community development; housing; informatics; statistical research methods; and GIS.

Stuart Shapiro, Professor and Dean, Edward J. Bloustein School of Planning and Public Policy
B.S., Case Western Reserve; M.P.P., Ph.D., Harvard
Teaching and research interests include the regulatory process; cost-benefit analysis; federal bureaucracy; regulatory reform; and policy analysis.

Mi Shih, Associate Professor and Director, Program in Urban Planning and Policy Development;
B.S., M.S., National Taiwan; Ph.D., Rutgers
Teaching and research interests include international urbanization; land development, land politics and property rights; displacement; social protests and community participation; ethnographic methods.

Michael Smart, Associate Professor and Director, Ph.D. Program in Planning and Public Policy
B.A., Yale; M.C.R.P., Pennsylvania; Ph.D., California (Los Angeles)
Teaching and research interests include transportation; immigrant neighborhoods; LGBT neighborhoods; urban modeling; and GIS.

Piyushimita "Vonu" Thakuriah, Distinguished Professor and Dean Emeritus, Edward J. Bloustein School of Planning and Public Policy; Director, Rutgers Urban and Civic Informatics Laboratory (RUCI Lab)
B.A., M.A., Delhi (India); M.U.P.P., Ph.D., Illinois (Chicago)
Teaching and research interests include transportation planning and operations; big data, urban informatics, smart cities, and urban mobility analytics; social and economic cyberinfrastructure; data justice, equity, and ethical aspects of information technology, AI, and automation.

Jermaine Toney, Assistant Professor
B.A., St. Thomas; M.S., Ph.D., Milano - The New School
Teaching and research interests include applied microeconomics; socioeconomic and racial inequality; wealth and health disparities; and demography and family connections.

Carl E. Van Horn, Distinguished Professor; Director, John J. Heldrich Center for Workforce Development
B.A., Pittsburgh; M.A., Ph.D., Ohio State
Teaching and research interests include employment policy; economic development; education policy; state government and federalism; and policy analysis and evaluation.

Sharifa Z. Williams, Assistant Professor
B.A., Rutgers; M.P.H., Dr.PH., Columbia
Teaching and research interests include identifying health disparities; describing longitudinal trends in psychosocial exposures across the life-course; development of Bayesian modeling approaches for improving inference about psychiatric conditions using survey data; analyzes trends in overdose and suicide attempts in large statewide datasets

Ruth Winecoff, Assistant Professor
B.A., UNC Chapel Hill; M.P.A., Ph.D., Indiana-Bloomington
Teaching and research interests include budget and finance; economics; health disparities; health policy; environmental planning and policy

Nancy Wolff, Distinguished Professor; Director, Bloustein Center for Survey Research
B.A., Ph.D., Iowa State
Teaching and research interests include health economics; public finance; and criminal justice.

Wenwen Zhang, Associate Professor
B.E., Zhejiang (China); M.S., M.S., Ph.D., M.C.R.P., Georgia Institute of Technology
Teaching and research interests include urban land use and transportation interaction; innovative/disruptive transportation technology; urban modeling/simulation; sustainable development; data analytics and visualization in planning.

Associated Faculty (EJB-G)

ASSOCIATED FACULTY

Robert Kopp, Professor, Department of Earth and Planetary Sciences, School of Arts and Sciences; Director, Coastal Climate Risk and Resilience Initiative; S.B., Chicago; Ph.D., California Institute of Technology
Teaching and research interests include past states of the Earth system and modeling future global change; and assessments of the effects of policy on energy, economic, and climate systems.

Lenna Nepomnyaschy, Associate Professor, School of Social Work; Ph.D., Columbia
Teaching and research interests include child and family policy; poverty and inequality; and health disparities.

Karen O'Neill, Associate Professor and Undergraduate Director, Department of Human Ecology, School of Environmental and Biological Sciences; B.A., San Francisco; M.A., Ph.D., California (Los Angeles)
Teaching and research interests include environmental policy; U.S. history; political sociology; comparative and historical sociology; environmental justice; and environmental sociology.

Edward Ramsamy, Associate Professor of Africana Studies, School of Arts and Sciences; B.A. (Hons), Durban-Westville (South Africa); M.C.R.P., Ph.D., Rutgers
Teaching and research interests include international development planning; geographies of globalization; political economy of transition and nation-building in post-colonial/developing societies; and comparative politics of identity and race relations in South Africa and the United States.

Mark Gregory Robson, Professor and Extension Specialist in Entomology, Dean of Agricultural and Urban Programs, School of Environmental and Biological Sciences; B.S., M.S., Ph.D., Rutgers; M.P.H., UMDNJ/School of Public Health
Teaching and research interests include exposure science and pesticide use, primarily in developing countries and on a global scale; and risk assessment processes as they relate to public health and health policy.

Rachael Shwom, Assistant Professor, Department of Human Ecology, School of Environmental and Biological Sciences; B.A., Syracuse; M.E.M., Duke; Ph.D., Michigan State
Teaching and research interests include energy efficiency policy; reducing greenhouse gas emissions; formation of public opinions on climate change; and media's coverage of climate change.

Fellows (EJB-G)

FELLOWS

Adriana Abizadeh, Senior Policy Fellow
B.S. Rutgers-Camden; M.S Drexel
Teaching and research interests include collective land ownership; community organizing; decommodification; democratic participation; governance.

Hon. Paul W. Armstrong, J.S.C., M.A., J.D., LL.M., Senior Policy Fellow and Judge in Residence, Master of Health Administration Program
A.B., Oxford University, Exeter College; M.A., Dayton; J.D., Notre Dame Law; L.L.M, NYU School of Law
Teaching and research interests include healthcare law and ethics.

Lawrence B. Burrows, Senior Planning Fellow
B.A., Rutgers; M.C.P., Pennsylvania; A.M.P., Wharton School
Teaching and research interests include market analysis; financial feasibility; real estate development; and team building and development.

Sujoy Chakravarty, Senior Policy Fellow
M.A., M.Phil Jawaharlal Nehru University (India); M.S., Ph.D., Carnegie Mellon
Teaching and research interests include healthcare delivery and financing; racial and ethnic disparities in access to care; and industrial organization of healthcare markets.

Sanford M. Jaffe, Policy Fellow
B.A. Rutgers; L.L.B. Harvard Law School
Teaching and research interests include decision-making in negotiations and collaborations; barriers to effective negotiations; impact of decision-making processes on nature of, and compliance with, outcomes.

Richard F. Keevey, Senior Policy Fellow
B.A., LaSalle; M.P.A., Wharton, University of Pennsylvania
Research interests include federal, state, and local fiscal policy; financial management; and education and finance challenges.

Brandon McKoy, Senior Policy Fellow
B.A., The College of New Jersey; M.C.R.P., Rutgers
Teaching and research interests include racial equity; economic justice; public policy; and healthcare.

Russ Molloy, Senior Policy Fellow
B.A., Rutgers; J. D. Seton Hall Law
Teaching and research interests include political institutions; politics; advocacy; government relations; regulatory affairs; independent authorities.

Marc Pfeiffer, Senior Policy Fellow; Assistant Director, Bloustein Local Government Research Center
B.S., American; M.P.A., New York
Teaching and research interests include local and state government policy and administration; local government fiscal policy; the legislative process and regulation; use of technology in local government; and training of public administrators in matters of government transparency that intersect with technology.

Linda Stamato, Policy Fellow
B.A., Rutgers; M.A. Seton Hall; M.A., Rutgers; Ph.D. (ABD), NYU
Teaching and research interests include decision-making in negotiations and collaborations; barriers to effective negotiations; impact of decision-making processes on nature of, and compliance with, outcomes; theoretical (and practical) concerns having to do with intractable controversies, particularly those that emerge in public policy decision-making.

About the School (GSAPP)

ABOUT THE SCHOOL

History and Current Developments

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History of GSAPP (GSAPP)

History of GSAPP

In 1974, the Graduate School of Applied and Professional Psychology (GSAPP) at Rutgers University-New Brunswick became the first professional school located within a major research university to offer the doctor of psychology degree. The GSAPP faculty participated in the pivotal 1978 Virginia Beach Conference on the training of professional psychologists, which enunciated the principle that professional training is best accomplished in a university setting. Instruction began with two specialties: clinical and school psychology and organizational psychology was added in 1988. As a unit of Rutgers, GSAPP is accredited by the Middle States Association of Schools and Colleges, and its school and clinical psychology programs are fully accredited by the American Psychological Association (APA).

GSAPP was described in 1993 as "the very best school for the Psy.D. degree" and "the standard of quality against which other Psy.D. programs should be measured" in a report prepared by nationally prominent professional and academic senior psychologists from around the country. The report was prepared as part of an external review of

GSAPP, which the university requires all units to undertake. These observations were reaffirmed in 1999 when GSAPP was honored with the Outstanding Training Program Award bestowed by the Association for the Advancement of Behavior Therapy.

In 2018 the school began offering its first master of applied psychology (M.A.P.) program, followed shortly thereafter by degree offerings in applied behavioral analysis and in multi-tiered systems of support.

The GSAPP faculty recognizes the impact of evolving health care delivery systems and other social and professional changes in the practice of professional psychology and continuously reviews its training goals and curricula. The combination of full-time core faculty and part-time faculty, who are professionals working in the community, enables GSAPP to offer both rigorous theoretical courses based on current research and practice-oriented courses that build upon this scholarly foundation.

Students have access to relevant full-time faculty from all of these units for individual study, dissertation and capstone project committees, and other training activities. A large number of mental health providers, listed in this catalog, serve as practicum placement supervisors and supervisors for GSAPP's onsite psychological clinic. Regional alumni play an active role in annual mentoring activities designed to ease the journey from academics to professional practice. Our alumni are currently practicing throughout the United States and across the globe.

Mission (GSAPP)

Mission

At GSAPP, we are committed to preparing exceptional practitioners, scholars, and leaders in applied and professional psychology who serve diverse populations. We do this by translating cutting-edge, scientific knowledge into innovative, evidence-based practices that advance social justice and create lasting, positive change for individuals, groups, systems, organizations, and communities at local, state, and national levels. We transform policy and practice throughout New Jersey and beyond.

Core Values

We are guided by four core values that are apparent in our learning environment, centers, and clinics:

1. **Academic excellence** in preparing students for careers in clinical and school psychology.

2. Commitment to **social justice** and helping **underserved populations**.

3. **Diversity** of students trained, approaches used, theoretical orientations followed, and populations served.

4. **Knowledge generation and dissemination** using contemporary research approaches.

Curriculum (GSAPP)

Curriculum

The programs extend and deepen disciplined knowledge of mental health, from its biological aspects through individual and group processes to organizations and social systems, in keeping with GSAPP's philosophy of training. Most courses require an experiential component that allows continuous integration of coursework with supervised experience. In this way, professional students become competent in practitioner skills of assessment, intervention, and consultation.. For example, courses in psychotherapy integrate the supervision of clinical cases with theoretical knowledge of the way people function cognitively, emotionally, and behaviorally. Courses in program planning and evaluation require students to study general principles of program design while actually designing, implementing, and evaluating programs of their own. Courses in group relations and organizational diagnosis provide both theoretical and methodological bases for working with organizations.

Through coursework and colloquia, students are introduced to the ethical and legal issues and to the special responsibilities inherent in the delivery of mental health services in the public, private, and not-for-profit sectors. Formal instruction is coordinated with supervised practicum placements in a wide variety of settings throughout the state. GSAPP maintains liaisons with schools, psychiatric hospitals, clinics, businesses, and other agencies in which students provide psychological services under supervision. There are practicum placements that focus on public settings where groups such as the poor, elderly, and disadvantaged are served.

Upon matriculation into a GSAPP degree program, students meet with faculty advisors to review the sequences of courses. The advisers guide students over time to create personalized program proposals that chart planned didactic and experiential courses of study during their years at GSAPP. The program proposals ensure that students meet specialization, departmental, and university requirements while selecting courses and experiences to meet their unique interests. Our programs strive for a positive and supportive learning environments that provide flexibility, combining individual interests and required courses, with an array of support programs and activities.

Centers and Clinical Services (GSAPP)

Centers

Douglass Developmental Disabilities Center

Rutgers Center for Adult Autism Services

Center of Alcohol and Substance Use Studies

Answer

Center for Youth Social Emotional Wellness

Center for Psychological Services

Clinical Services Within the Center for Psychological Services

Clinical Services Within the Center for Psychological Services

General Therapy Clinic

Assessment Clinic

ADHD Clinic

The Anxiety Disorders Clinic

Dialectical Behavior Therapy Program

Children (and Families) Healing After Trauma (CHAT) Clinic

Group Psychotherapy Services

The Tourette Syndrome Clinic

Public Service Commitment (GSAPP)

Public Service Commitment

The Graduate School of Applied and Professional Psychology's (GSAPP) training programs have extensive links to the community. GSAPP's training programs are an integral part of its public service commitment. As soon as students possess the necessary mental health service skills, they provide these services under supervision in applied settings. On average, each GSAPP student provides over 400 hours of service per academic year (more than a day per week).

Location (GSAPP)

Location

New Brunswick is located in central New Jersey. With easy access to New York City and Philadelphia, students are able to participate in an exceptionally wide range of research, seminars, and ethnic and cultural activities.

The academic and administrative headquarters of GSAPP is located in two stories of a specially designed wing of the Psychology Building as well as a wing within the Nelson Building. Both buildings are on the Busch campus, approximately five minutes from New Brunswick.

The Center for Psychological Services is partially housed within the Psychology Building. It contains a number of one-way viewing rooms to facilitate training. Faculty and staff offices, a student lounge, and classrooms are also located in the Psychology Building. Other programs within the Center for Psychological Services, as well as the Center for Applied Psychology, are housed in separate research and training buildings five minutes from the Psychology Building.

Busch campus is the site of Rutgers main science complex. The Library of Science and Medicine, the Behavioral Health Care Center, and the computer center are in the immediate vicinity. Courses may also be taken at other graduate and professional schools in New Brunswick, in addition to offerings on both the Newark and Piscataway locations of the medical schools. Other courses are offered in various locations throughout New Jersey and, on occasion, in New York City.

You may reach us at:

Rutgers, The State University of New Jersey
Graduate School of Applied and Professional Psychology
152 Frelinghuysen Road
Piscataway, NJ 08854-8085

Phone: 848-445-2000

Fax: 732-445-4888

Please visit the Graduate School of Applied and Professional Psychology website.

Email: deansoffice@gsapp.rutgers.edu

Vanessa Bal (GSAPP)

Vanessa Bal

Ph.D., Michigan

For a brief biography, see the GSAPP website.

Alexandria Bauer (GSAPP)

Alexandria Bauer

Dr. Bauer received her B.A. in Psychology from San Diego State University in 2013, after transferring from community college, and she earned both her master's degree and Ph.D. in Clinical Psychology from the University of Missouri-Kansas City. She completed her predoctoral clinical internship at the Charleston Consortium in Charleston, SC, where she trained in rotations focused on trauma and cognitive-behavioral interventions. Dr. Bauer's research interests include understanding and addressing health disparities that burden Black/African American and other racial/ethnic minority populations, particularly using community-based participatory research strategies.

German A. Cadenas (GSAPP)

German A. Cadenas

For a brief biography, see the GSAPP website.

Nicole Cain (GSAPP)

Nicole Cain

Ph.D., Pennsylvania

For a brief biography, see the GSAPP website.

Brian C. Chu (GSAPP)

Brian C. Chu

Ph.D., Temple

For a brief biography, see the GSAPP website.

Timothy J. Cleary (GSAPP)

Timothy J. Cleary

Ph.D., CUNY Graduate School and University Center

For a brief biography, see the GSAPP website.

Joshua Cohen (GSAPP)

Joshua Cohen

For a brief biography, see the GSAPP website.

Meghan Deshais (GSAPP)

Meghan Deshais

Ph.D., University of Florida

Meghan A. Deshais, Ph.D., BCBA-D is an assistant professor in the Graduate School of Applied and Professional Psychology at Rutgers University. She earned her doctorate in the experimental analysis of behavior from the University of Florida in 2018. Prior to joining the faculty at Rutgers, she was an assistant professor in the Department of Applied Behavior Analysis (ABA) and a clinical supervisor at the Center for Autism and ABA at Caldwell University. She has held clinical positions at a variety of programs for children with developmental disabilities including the Kennedy Krieger Institute and the New York Center for Autism Charter School. Her research interests include establishing critical skills in children with disabilities, group contingencies, and the application of behavior analysis to novel areas. She serves on the board of the *Journal of Applied Behavior Analysis*, has published research in a number of peer-reviewed journals, and has coauthored several textbook chapters.

Angelica Diaz-Martinez (GSAPP)

Angelica Diaz-Martinez

Psy.D., Rutgers

For a brief biography, see the GSAPP website.

Angelo DiBello (GSAPP)

Angelo DiBello

Ph.D., University of Houston

Dr. Angelo DiBello is an assistant professor in the Center of Alcohol and Substance Use Studies and GSAPP's Department of Applied Psychology, an adjunct assistant professor at Brown University, and is the director of the Social Health Addiction and Relationship Processes (SHARP) Laboratory at Rutgers University. Dr. DiBello earned his Ph.D. in social psychology in 2015 from the University of Houston, and completed his postdoctoral training in 2017 at the Center for Alcohol and Addiction Studies at Brown University. Dr. DiBello has published over 60 peer-reviewed publications and is both the principal investigator and co-investigator of several ongoing randomized clinical trials funded by the National Institute of Alcohol Abuse and Alcoholism (NIAAA). Dr. DiBello is an applied social psychologist who researches intervention strategies to promote health behavior change in the context of addictive behaviors as well as the impact of substance use on romantic relationship processes.

Jennifer Durham (GSAPP)

Jennifer Durham

Psy.D., Rutgers University

For a brief biography, see the GSAPP website.

Peter Economou (GSAPP)

Peter Economou

Ph.D., Seton Hall University

Pete J. Economou Ph.D., ABPP associate professor and director of the master of applied psychology (M.A.P.) and organizational psychology Psy.D. programs, was trained in counseling psychology and is board certified in Cognitive and Behavioral Therapy (CBT) specializing in evidence-based and multicultural clinical interventions. He is also the director for behavioral health and wellness for Rutgers University athletics. Dr. Pete is licensed by New Jersey and New York to practice psychology and is also a certified mental performance consultant (CMPC-AASP). He has conducted research in several areas including: multicultural psychology, third wave CBT, and performance psychology. He is an active member of state and national psychology associations, serves on the editorial board of the *Journal of Clinical Sports Psychology* since 2014, and is a contributor to media outlets and social media. Lastly, as a student of Zen Buddhism, Dr. Pete has been studying at the Morning Star Zendo with Robert Kennedy, Roshi for several years, which has translated into his mindfulness practices offered through the third wave CBT theories.

Robert Emmerling (GSAPP)

Robert Emmerling

Psy.D. Rutgers

For a brief biography, see the GSAPP website.

Jennifer Foster (GSAPP)

Jennifer Foster

For a brief biography, see the GSAPP website.

Lara Delmolino Gatley (GSAPP)

Lara Delmolino Gatley

Ph.D., Rutgers University

Lara Delmolino is the associate dean of administration and faculty affairs at the Graduate School of Applied and Professional Psychology (GSAPP) and serves as the director of GSAPP's Applied and Academic Autism Services. She holds an appointment as a professor of clinical practice at GSAPP and serves as the executive director of the Douglass Developmental Disabilities Center. Dr. Delmolino earned her doctorate in clinical psychology from the

Graduate School-New Brunswick at Rutgers, The State University of New Jersey, and completed a predoctoral internship at the University of North Carolina, Chapel Hill. She has over 25 years of clinical and administrative experience in the fields of autism, applied behavior analysis, and applied psychology.

Sharon Glazer (GSAPP)

Sharon Glazer

Ph.D., Central Michigan

For a brief biography, see the GSAPP website.

Todd Glover (GSAPP)

Todd Glover

Ph.D., University of Wisconsin (Madison)

For a brief biography, see the GSAPP website.

Emily Graybill (GSAPP)

Emily Graybill

Ph.D., Georgia State University

For a brief biography, see the GSAPP website.

Anne Gregory (GSAPP)

Anne Gregory

Ph.D., University of California (Berkeley)

For a brief biography, see the GSAPP website.

Denise Hien (GSAPP)

Denise Hien

Ph.D., Teachers College, Columbia

For a brief biography, see the GSAPP website.

Julia Iannaccone (GSAPP)

Julia Iannaccone

Julia Iannaccone, Ph.D., BCBA-D, LABA, is a licensed psychologist who has worked in the field of autism and Applied Behavior Analysis (ABA) for over 15 years, providing evidence-based services in inpatient, outpatient, school, consultative, and adult service settings. She received her Master's in ABA from the University of Maryland, Baltimore County and completed her practicum on the Inpatient Neurobehavioral Unit at the Kennedy Krieger Institute. She earned her Ph.D. in the Behavior Analysis Training Area of the Psychology program at The Graduate Center & Queens College, City University of New York. Dr. Iannaccone completed her pre-doctoral internship at the Douglass Developmental Disabilities Center (DDDC) at Rutgers, the State University of New Jersey and completed her postdoctoral fellowship at the May Institute for Adult Services, where she continued to work as the Director of Clinical Services and Training. Her research interests include the assessment and treatment of severe problem behavior in individuals with autism and related disorders, especially in the adult service setting, and identifying effective and efficient methods to train staff. Dr. Iannaccone has authored several articles in peer-reviewed journals and presented her research at national and international conferences.

Arpana Inman (GSAPP)

Arpana Inman

For a brief biography, see the GSAPP website.

Robert Isenhower (GSAPP)

Robert Isenhower

Robert W. Isenhower, Ph.D., BCBA-D is an associate teaching professor at the Graduate School of Applied and Professional Psychology at Rutgers University. He earned his doctorate in experimental psychology at the University of Connecticut in 2010. He currently serves as the Director of Graduate Student Training at the Douglass Developmental Disabilities Center, where he coordinates the DDDC practicum. He has more than 10 years of experience working with individuals with autism and other developmental disabilities in clinical, school, and home-based settings. He has published in peer-reviewed journals including the Journal of Applied Behavior Analysis and the Journal of Behavioral Education and has presented at conferences including the Association for Behavior Analysis, New Jersey Association for Behavior Analysis, and Autism New Jersey. His research interests include preference and reinforcer assessments, stimulus discrimination training, staff training, and assessment/intervention targeted at improving the lives of adults with autism.

SungWoo Kahng (GSAPP)

SungWoo Kahng

Ph.D., University of Florida

SungWoo Kahng is the chair of the Department of Applied Psychology at the Graduate School of Applied and Professional Psychology. He is also an associate professor and director of academic programs in autism and applied behavior analysis (ABA). Prior to his current position, he was an associate professor at the University of Missouri (MU) where he was also the chair of the Department of Health Psychology, the founding director of the MU graduate programs in applied behavior analysis, and director of the Applied Behavioral Intervention Service of the MU Thompson Center for Autism and Neurodevelopmental Disorders. Prior to moving to MU, he was a faculty member in the Department of Behavioral Psychology and a senior behavior analyst on the Neurobehavioral Unit at the Kennedy Krieger Institute as well as an associate professor in the Department of Psychiatry and Behavioral Sciences at the Johns Hopkins University School of Medicine. Dr. Kahng graduated from Kalamazoo College with a bachelor of arts degree in psychology and received his Ph.D. in behavior analysis from the University of Florida. He was an associate editor for the *Journal of Applied Behavior Analysis* where he also serves on the board of editors. Additionally, he is on the board of editors for *Behavioral Intervention* and R*eview Journal of Autism and Developmental Disorders*. He is a Board Certified Behavior Analyst. Dr. Kahng is on the board of directors of the Behavior Analyst Certification Board and the scientific council of the Organization for Autism Research. He is the recipient of the 2003 B.F. Skinner New Researcher Award given by Division 25 of the American Psychological Association. Dr. Kahng has coauthored over 80 peer-reviewed articles and chapters. The focus of his research and clinical work has been on assessing and treating behaviors exhibited by individuals with developmental disabilities. He is also interested in a broader research agenda, which includes topics related to obesity and aging. Finally, he has mentored numerous undergraduate, master's level, and predoctoral students as well as postdoctoral fellows.

Shalonda Kelly (GSAPP)

Shalonda Kelly

Ph.D., Michigan State

For a brief biography, see the GSAPP website.

Ryan J. Kettler (GSAPP)

Ryan J. Kettler

Ph.D., University of Wisconsin-Madison

For a brief biography, see the GSAPP website.

Joshua Langberg (GSAPP)

Joshua Langberg

Ph.D., University of South Carolina

For a brief biography, see the GSAPP website.

Robert LaRue (GSAPP)

Robert LaRue

Ph.D., Louisiana State University

Robert H. LaRue, Ph.D., BCBA-D, is a clinical professor in the Department of Applied Psychology at the Graduate School of Applied and Professional Psychology at Rutgers University. He has over 25 years of experience working with individuals with special needs. Dr. LaRue earned a dual doctorate in biological and school psychology from Louisiana State University in 2002. He completed his predoctoral internship with the Kennedy Krieger Institute at Johns Hopkins University and a postdoctoral fellowship with the Marcus Institute at Emory University. He currently serves as the director of behavioral and research services at the Douglass Developmental Disabilities Center, where he supervises several graduate students and staff providing behavioral consultation to programs within the center. In addition, Dr. LaRue consults to the Rutgers Center for Adult Autism Services at Rutgers University. His research interests include the assessment and treatment of maladaptive behavior, behavioral economics, autism across the life span, and behavioral pharmacology.

Adam Lekwa (GSAPP)

Adam Lekwa

Ph.D., University of Minnesota

For a brief biography, see the GSAPP website.

Preston Lindsay (GSAPP)

Preston Lindsay

Ph.D., The Chicago School of Professional Psychology

For a brief biography, see the GSAPP website.

Cong Liu (GSAPP)

Cong Liu

Ph.D., University of South Florida

For a brief biography, see the GSAPP website.

Stephanie Lyon (GSAPP)

Stephanie Lyon

Ph.D., Derner School of Psychology, Adelphi

For a brief biography, see the GSAPP website.

Christopher Manente (GSAPP)

Christopher Manente

Christopher J. Manente, Ph.D., BCBA, is the Founding Executive Director of the Rutgers Center for Adult Autism Services (RCAAS) and is an Associate Professor of Clinical Practice at the Rutgers Graduate School of Applied and Professional Psychology (GSAPP). Dr. Manente's previous roles included serving as an Assistant Professor of Education at Caldwell University, as a consultant supporting students with ASD in schools throughout New Jersey, and serving as the Senior Program Coordinator of Adult Services at the Douglass Developmental Disabilities Center (DDDC) at Rutgers University. Dr. Manente has authored articles in peer-reviewed journals, co-authored book chapters, and has presented at numerous local and national conferences on a variety of topics related to the advancement of community-based educational, vocational, and residential opportunities for older learners with autism.

Linda A. Reddy (GSAPP)

Linda A. Reddy

Ph.D., University of Arizona

For a brief biography, see the GSAPP website.

Karen Riggs-Skean (GSAPP)

Karen Riggs-Skean

Psy.D., Rutgers

For a brief biography, see the GSAPP website.

Kristen Riley (GSAPP)

Kristen Riley

Ph.D., Connecticut

For a brief biography, see the GSAPP website.

Louis A. Sass (GSAPP)

Louis A. Sass

Ph.D., California (Berkeley)

For a brief biography, see the GSAPP website.

David J. Shernoff (GSAPP)

David J. Shernoff

Ph.D., University of Chicago

For a brief biography, see the GSAPP website.

Elisa Shernoff (GSAPP)

Elisa Shernoff

Ph.D., University of Wisconsin-Madison

For a brief biography, see the GSAPP website.

Peggy Swarbrick (GSAPP)

Peggy Swarbrick

Dr. Margaret (Peggy) Swarbrick, OTR, FAOTA, is the Associate Director of the Center of Alcohol and Substance Use Studies and a Research Professor in the Applied Department of GSAPP. Over her career, she has made significant contributions to the body of literature in occupational therapy, nursing, and community behavioral health care practice, focused on topics such as the 8 dimensions of wellness, wellness coaching, peer support, health disparities and social determinants of health, financial wellness, employment, trauma, and self-care. She developed a strength based 8-dimensional wellness model to promote recovery from mental health and substance use. Dr Swarbrick is

known for bringing the voices and needs of people to the table by collaborating with the peer community and family groups to identify and address social determinants that are barriers to recovery and wellness. She has created self-care wellness programs for people in recovery, caregivers, families, youth, and professionals. She worked for many years at the Collaborative Support Programs of New Jersey Wellness Institute.

James Walkup (GSAPP)

James Walkup

M.Litt., Saint Andrews; Ph.D., New School for Social Research

For a brief biography, see the GSAPP website.

Deirdre Waters (GSAPP)

Deirdre Waters

Deirdre M. Waters is an assistant teaching professor and Director of the Master of Applied Psychology program at GSAPP. She earned her doctorate in clinical psychology from The University of Denver's GSPP, a master's degree from Montclair State University, and has worked in direct care in the field of mental health for over twenty years. Dr Waters is committed to improving access to psychological practices , closing treatment gaps, and her clinical work is primarily with adults struggling with anxiety disorders and SUDs.

G. Terence Wilson (GSAPP)

G. Terence Wilson

Ph.D., State University of New York (Stony Brook)

For a brief biography, see the GSAPP website.

Danielle Zurawiecki (GSAPP)

Danielle Zurawiecki

Psy.D., Rutgers University

For a brief biography, see the GSAPP website.

Nancy Boyd-Franklin, Emerit (GSAPP)

Nancy Boyd-Franklin, Emerit

Ph.D., Columbia

For a brief biography, see the GSAPP website.

Brenna H. Bry, Emerit (GSAPP)

Brenna H. Bry, Emerit

Ph.D., Missouri (Columbia)

For a brief biography, see the GSAPP website.

Cary Cherniss, Emerit (GSAPP)

Cary Cherniss, Emerit

Ph.D., Yale University

Cary Cherniss was a professor in the Department of Applied Psychology. Both an organizational and community psychologist, he specializes in the areas of emotional intelligence, work stress and burnout, leadership development, planned organizational change, and the creation of new settings. He has published over 70 scholarly articles and book chapters on these topics as well as seven books, including *The Emotionally Intelligent Workplace* (Jossey-Bass, with Daniel Goleman), *Promoting Emotional Intelligence in Organizations: Guidelines for Practitioners* (American Society for Training and Development, with Mitchel Adler), and *Beyond Burnout: Helping Teachers, Nurses, Therapists, and Lawyers Recover from Stress and Disillusionment* (Routledge). His research has been funded by several sources, including the National Institute of Mental Health and the U.S. Office of Population Affairs. In addition to his research and writing, Dr. Cherniss has consulted with many organizations in both the public and private sectors, including American Express, Johnson & Johnson, the U.S. Coast Guard, AT&T, Telcordia, the United States Office of Personnel Management, and PSEG Power. He currently is co-chair of the Consortium for Research on Emotional Intelligence in Organizations, and he is a fellow of the American Psychological Association and past president of its Society for Community Research and Action, Division of Community Psychology. He is also a member of both the Academy of Management and the Society for Industrial and Organizational Psychology.

Nancy S. Fagley, Emerit (GSAPP)

Nancy S. Fagley, Emerit

Ph.D., University of Utah

Nancy S. Fagley, Ph.D., is Professor Emerita in the Department of School Psychology. Her current research focuses on appreciation (including gratitude, among other components), with emphasis on fine-tuning its conceptualization and measurement and on identifying its causes and consequences. She conceptualizes appreciation as a higher-order construct, with gratitude representing one of several lower-level components. Her research has demonstrated that a greater tendency to feel appreciation significantly contributes to life satisfaction, even after controlling for individual differences in the Big 5 personality factors and trait gratitude. Thus gratitude and appreciation are not synonymous, but instead are hierarchically nested. Her earlier research focused on framing effects on choice, and her research (in collaboration with Paul M. Miller and others) identified a number of moderators of the effects of framing on choice including decision maker characteristics such as gender, task features such as providing a rationale, and decision problem features such as the arena (e.g., human life vs. money). She serves on the editorial board of the *Journal of Behavioral Decision Making*.

Daniel B. Fishman, Emerit (GSAPP)

Daniel B. Fishman, Emerit

Ph.D., Harvard

For a brief biography, see the GSAPP website.

Susan G. Forman, Emerit (GSAPP)

Susan G. Forman, Emerit

Ph.D., University of North Carolina (Chapel Hill)

For a brief biography, see the GSAPP website.

James Langenbucher, Emerit (GSAPP)

James Langenbucher, Emerit

Ph.D., Rutgers University

James Langenbucher specializes in diagnosis, nosology, and adult psychopathology. Since 1989 he has been principal investigator of the Rutgers Research Diagnostic Project, a multisited, prospective longitudinal cohort study. He currently holds an Independent Scientist Award for Neuroadaptive Clinical Models of Drug Dependence from the National Institute on Drug Abuse. His research focuses on developing new, high-performance diagnostic algorithms with firm links to biological and developmental factors, and testing them through a multilevel validation strategy before feeding them into the DSM-V and ICD-11 development processes.

From 1987 to 1995, Dr. Langenbucher was director of a principal teaching clinic for the clinical psychology program at Rutgers: the Program for Addictions Consultation and Treatment, a collaborative program of Rutgers Center of Alcohol Studies and St. Peter's Medical Center in New Brunswick. He provides clinical supervision in addictions

treatment and general mental health cases to a variety of Graduate School of Applied and Professional Psychology and clinical Ph.D. students and graduates. Board certified in forensic examination, he regularly conducts assessment of cases in which alcohol and drug abuse are involved, and has a special interest in the problems of the elderly. He limits his therapy practice to patients aged 60 and older.

Stanley B. Messer, Emerit (GSAPP)

Stanley B. Messer, Emerit

Ph.D., Harvard University

For a brief biography, see the GSAPP website.

Michael R. Petronko, Emerit (GSAPP)

Michael R. Petronko, Emerit

Ph.D., Florida State University

For a brief biography, see the GSAPP website.

Kenneth C. Schneider, Emerit (GSAPP)

Kenneth C. Schneider, Emerit

Ph.D., Yeshiva University

Kenneth C. Schneider was chair of the Department of Applied Psychology from 1990-2006. Although retired from Rutgers, he continues at the Graduate School of Applied and Professional Psychology as a principal investigator of the New Jersey State Department of Education, Office of Special Education State Improvement Grant to evaluate various components of special education delivery. He continues to teach and lecture and works extensively with students in the areas of both clinical work and dissertation research. Dr. Schneider is professionally active and is a member of the executive board of the I Have A Dream Foundation in Plainfield, New Jersey. He is a licensed practicing psychologist and certified school psychologist.

Affiliated Faculty (GSAPP)

AFFILIATED FACULTY

Alexander Alperin, Psy.D., Rutgers University-New Brunswick

Wayne Fisher, Ph.D., University of Texas

Please learn more about GSAPP's affiliated faculty in our directory at Faculty and Staff Directory.

Administration (GSAPP)

Administration

Dean's Office

Daniel Hart, Interim Dean

Lara Delmolino, Associate Dean for Administrative and Strategic Operations

Ryan Kettler, Associate Dean of Academic and Faculty Affairs

Timothy Cleary, Interim Associate Dean of Research

Daniel Rice, Assistant Dean for Student Success and Student Climate

Jennifer Durham, Special Assistant to the Dean

Bernadette Cariaga, Director of Finance, Business Manager

Department of Applied Psychology

Vanessa Bal, Chair

Sharon Glazer, Program Director, Programs in Organizational Psychology

SungWoo Kahng, Program Director, Programs in Applied Behavior Analysis

Deirdre Waters, Program Director, Masters of Applied Psychology Program

Department of Clinical Psychology

Nicole Cain, Chair

Angelica Diaz-Martinez, Program Director & Director of Clinical Training, Clinical Psychology Program

Department of School Psychology

Elisa Shernoff, Interim Chair

Letty DiLeo, Program Director, Programs in Multi-Tiered Systems of Support

Jennifer Foster, Program Director & Director of Clinical Training, School Psychology Program

Center Directors

Catriona Francis, Director of Douglass Developmental Disabilities Center

Margaret Swarbrik, Associate Director, Center of Alcohol and Substance Use Studies

Christopher Manente, Director, Rutgers Center for Adult Autism Services

Kelly Moore, Director, Center for Psychological Services

Joshua M. Langberg, Director, Center for Youth Social Emotional Wellness

Stephanie Lyon, Executive Director, Answer

Program and Center Directors (EJB-G)

PROGRAM AND CENTER DIRECTORS

ACADEMIC PROGRAMS

Undergraduate Programs
Christina Torian, Assistant Dean of Undergraduate Education

Doctoral Program in Planning and Public Policy
Michael Smart, Director

Public Policy Program
Julia Sass Rubin, Director

Urban Planning and Policy Development Program
Mi Shih, Director

Health Administration Program
Ellen T. Kurtzman, Director

Informatics Program
Jim Samuel, Executive Director

RESEARCH CENTERS AND INSTITUTES

Bloustein Center for Survey Research
Nancy Wolff, Director

Center for Urban Policy Research
Clinton J. Andrews, Director
David Listokin, Associate Director
Jennifer Senick, Executive Director

- Bloustein Local
- Built Environment and Green Building (formerly Rutgers Center Green Building)
- Infrastructure Networks (formerly Center for Energy, Economic & Environmental Policy)
- Environmental Analysis and Communications Group
    - Planning Healthy Communities Initiative
    - Sustainable Raritan River Initiative
- Urban Policy
- Rutgers Economic Advisory Service (R/ECON)

John J. Heldrich Center for Workforce Development
Carl Van Horn, Director
Andea Hetling, Associate Director

New Jersey State Policy Lab
Elizabeth Cooner, Executive Director

- Center for Negotiation and Conflict Resolution

Rutgers Urban and Civic Informatics Lab
Piyushimita "Vonu" Thakuriah, Director

Alan M. Voorhees Transportation Center
Robert B. Noland, Director

- National Transit Institute
  Billy Terry, Director
- New Jersey Travel Independence Program (NJTIP @ Rutgers)
  Karen Alexander, Director
- New Jersey Bicycle & Pedestrian Resource Center
- New Jersey Safe Routes to School

Ralph W. Voorhees Center for Civic Engagement
Kathe Newman, Director

Dean's Office Staff, 2025 (GSAPP)

Dean's Office Staff, 2025

Karen Cascio-Harford, Program Coordinator, Organizational PsyD Program

Rachel Diaz, Program Coordinator, Applied Psychology Department

Chanelle Greene, Administrative Coordinator, Dean's Office

Robin Hussey, Program Coordinator, School Psy.D. Program

Alice Lau, Assistant to the Deans

Julie Skorny, Program Coordinator, Clinical Psy.D. Program

Usha Yerramilly, Business Manager, Dean's Office

For an up-to-date listing of GSAPP staff, please visit our staff directory online.

Academic Programs (GSAPP)

ACADEMIC PROGRAMS

The Graduate School of Applied and Professional Psychology (GSAPP) offers the doctorate in psychology (Psy.D.), emphasizing training in assessment, intervention, and planned change techniques in clinical and school psychology. Some GSAPP faculty are, in addition, members of the School of Graduate Studies faculty and participate in the research-oriented doctor of philosophy (Ph.D.) clinical psychology program. The Psy.D. is awarded by the Graduate School of Applied and Professional Psychology; the Ph.D. is awarded by the School of Graduate Studies.

Doctor of Psychology (Psy.D.)

Psy.D. Program in Clinical Psychology (Department of Clinical Psychology)

Psy.D. Program in School Psychology (Department of School Psychology)

Psy.D. and Psy.M. Programs in Organizational Psychology (Department of Applied Psychology)

Master of Psychology (Psy.M.)

Master's in Applied Behavior Analysis (M.A.B.A.)

Master of Applied Psychology (M.A.P.)

Multi-Tiered Systems of Support

Bachelor of Arts/Master of Applied Psychology (M.A.P.) Program

Organizational Psychology (O.P.)

Certificate Program in Performance Psychology

Certificate Program in Suicide Prevention, Practice, and Policy

Clinical Child, Adolescent, Family, and Pediatric Psychology (CCAFP) Concentration

Community Psychology Concentration

Health Psychology Concentration

Multicultural Psychology Concentration

Certificate in Applied Behavior Analysis

Doctor of Psychology (Psy.D.) (GSAPP)

DOCTOR OF PSYCHOLOGY (PSY.D.)

The doctor of psychology (Psy.D.) degree in professional psychology is offered with specializations in the areas of clinical psychology, school psychology, and organizational psychology. The programs have separate but overlapping curricula, with some shared courses and others geared to the needs of the specialty.

Graduates of the clinical and school psychology programs are potentially eligible for licensing as psychologists in New Jersey. The Board of Psychological Examiners sets license eligibility rules and regulations. Students are encouraged to familiarize themselves with the licensing regulations of the state(s) in which they plan to practice.

American Psychological Association (APA) Resolution, January 1987

American Psychological Association (APA) Resolution, January 1987

The American Psychological Association (APA) takes the position that the use of the title "professional psychologist" or "school psychologist" is reserved for those who have completed a doctoral training program in psychology at a university, college, or professional school of psychology that is APA or regionally accredited. Only those so-trained are qualified to provide independent direct delivery of professional services, including preventive, assessment, and therapeutic services.

The APA also recommends that all applicants for licensure, as a minimum, must be graduates of a regionally accredited institution of higher education and must have completed a doctoral training program accredited by the APA.

Definition of a Professional Psychologist

Definition of a Professional Psychologist

A professional psychologist is a member of the organized community of scientific psychology, who directs his or her activities toward the task of helping individual, group, or organizational clients with the prevention and remediation of problems in human behavior.

The disciplinary basis for modern professional psychology is comprehensive systematic psychology from biological psychology through the overt and covert processes of individual, interpersonal, group, intergroup, and organizational processes. The parallel range of professional skills includes the assessment and regulation of psychobiological processes, analysis and change of individual behavior, interpersonal relationships, group and intergroup dynamics, and the appraisal and planned change of social organizations.

While this general conception of a professional psychologist is applicable to all areas of practice, areas of specialization are required due to the extensive amounts of knowledge and competence that are specific to age, gender, racial, ethnic, and family groups; institutional settings; problem types; and methods of assessment and intervention.

Doctor of Psychology (Psy.D.) (GSAPP)

Modes of Instruction

Modes of Instruction

The school offers relatively little instruction using only the straight lecture mode. Instead, considerable emphasis is placed upon learning by doing. Even in the first year of training, students observe clinical and applied demonstrations, try out newly developing skills through role-playing, participate in classroom exercises, sit in with experienced practitioners, and receive careful supervision in their preliminary attempts at the application of professional techniques. Thus, applied issues and concerns are immediate and meaningful to the student. The student's level of involvement becomes progressively more intense throughout the course of training. During the later years, most courses include a seminar component oriented to case discussions or substantive theoretical issues of clinical and applied import, a practicum component during which students see clients in the intervention mode or problem area under study, and a supervision component in which the student receives guidance from an experienced instructor. All three components are coordinated around a central conceptual issue, such as a mode of intervention or a client problem.

Doctor of Psychology (Psy.D.) (GSAPP)

Time Commitments

Time Commitments

The amount of time needed to complete a program varies with the student's background, academic progress, and extent of practicum training or assistantship aid, but cannot exceed university-imposed time limitations.

The programs require a minimum of four years of full-time study from the bachelor's level of entrance: three years of graduate coursework and practicum placement, including summer sessions, plus a year of internship. With the faculty's encouragement, many students choose to spread their coursework and dissertation over four years, accepting an internship in their fifth year. The internship requires a minimum of 10 months of full-time work.

All beginning-level applicants, including applicants with advanced degrees in allied mental health fields but not in psychology or with nonpractitioner master's degrees in psychology, should be prepared to attend the Graduate School of Applied and Professional Psychology (GSAPP) on a full-time basis for at least the first three years.

Students who have completed some previous graduate work in psychology usually are able to transfer courses. This allows greater freedom for the student in the choice of electives or the option of a lighter course load in the later semesters.

Psy.D. Program in Clinical Psychology (Department of Clinical Psychology) (GSAPP)

PSY.D. PROGRAM IN CLINICAL PSYCHOLOGY (DEPARTMENT OF CLINICAL PSYCHOLOGY)

Program Purpose and Philosophy

Program Purpose and Philosophy

The Clinical Psy.D. program subscribes to the scholar-practitioner model. The program's major objective is to train professionals who function as clinically sophisticated, evidence-based, culturally competent practitioners, with the capacity to develop and provide evidence for new assessment and treatment theories, strategies, and procedures. Didactic training in broad and general psychological principles is coupled with practical, graduated instruction in a range of assessment and intervention modes. The program takes a pluralistic approach to theoretical orientation, exposing each student to three broad conceptual and treatment orientations, including cognitive and behavioral, psychodynamic, and systems theories. Infused into all educational and training experiences are awareness of, sensitivity to, and consideration of appropriate approaches for individual differences, such as those associated with age, ethnicity, culture, race, religion, language, socioeconomic background, gender, sexual orientation, and national origin.

While students are required to master contemporary clinical practices, we also presume that over the course of a career they will encounter new knowledge, and new clinical needs-- which translates into a need for openness, flexibility, and a willingness to rise to the challenges posed by change. Our stress on clinical values and competency-based practice is designed both to equip our graduates to continue to develop over a lifetime of challenges that may not be evident to us today and to provide clinical leadership in the effort to develop new and better ways of relieving suffering and promoting human growth.

The program prioritizes the integration of science and practice in a manner that is appropriately sequential. Specifically, the program achieves its training objectives through careful linking of course work, clinical work, and other major program requirements. This linkage is conducted in stage-specific phases, including the following:

1. *Training begins with extensive, departmentally based efforts through foundational didactics and on-site clinical work*
2. *Supervision and close monitoring is leveraged to integrate competency acquisition for psychologists in training.*
3. *Increasingly greater reliance on integration between effective interventions courses in which clinic-based clinical work is required as part of the coursework and practicum-based instruction and supervision as the student advances.*

Model Course Sequence for Clinical Psy.D.

Model Course Sequence for Clinical Psy.D.

(To prepare for comprehensive exams and to meet other program requirements)		
	First Year	
Fall Semester	Spring Semester	Summer Semester
1. +Analytic Foundations (3 crs): 18:820:509	Elective (3)	Cognitive & Affective Psychology (3 crs): 18:820:505
2. +Learning Theory & Cognitive Behavioral Foundations (3 cr): 18:820:507	+Systems Theory & Analysis (3 crs): 18:820:508	Biological Bases of Human Behavior (3 crs) 18:820:622
3. ++Adult Psychopathology (3 credits) 18:820:565	Cognitive Assessment (3 crs): 18:820:633	Assessment Team "Didactics:" specialized instruction run by the GSAPP clinic
4. Clinical Interviewing & Assessment (3 crs): 18:820:531	++Child Psychopathology (3 crs): 18:820:563	Learning Disabilities/Adult (2 crs): 18:821:558
5. Supervision & Professional Development (1 cr): 18:821:653	Supervision & Professional Development (1 cr): 18:821:653	
6. General GSAPP Clinic* (0.5 crs) 18:821:543	General GSAPP Clinic* (0.5 crs) 18:821:543	
7. Practicum** (internal or external) (3 crs) 18:820:689	Practicum** (internal or external) (3 crs) 18:820:689	
8. Cognitive Behavioral Foundations Supervision Group (1.5) 18:821:641	Cognitive Behavioral Foundations Supervision Group (1.5) 18:821:641	

9. Psychodynamic Foundations Supervision Group (1.5) 18:821:642	Psychodynamic Foundations Supervision Group (1.5) 18:821:642	
+Required for General Comprehensive Exams		
++Required for Clinical Comprehensive Exams		
*1st -year Clinic: accounts for cases seen for Foundation courses and any other assessment, therapy cases seen.		
**Practica: Any year you do a practicum (including internal practica you will register for Fall and Spring credits; this will cover summer. You will ALSO register the practicum with the practicum coordinator through GSAPP web, including Summer-only practica.		
	Second Year	
Fall Semester	Spring Semester	Summer Semester
1. +Statistical Methods (3 crs) 18:820:581	+Advanced Statistics and Research Design (3 crs): 18:820:585	(Usually in July)
2. +Ethics and Professional Development (3 crs) 18:820:613 or 614	Social and Developmental Foundations of Human Behavior (3 crs) 18:820:506	Online Diversity course often available
3. Elective (3 crs) (Effective Intervention 1)	Elective (3 crs) (Effective Intervention 2)	
4. ++Diversity course or Elective (3 crs) (Effective Intervention 3)	++Diversity course or Elective (3 crs) (Effective Intervention 3)	
5. General GSAPP Clinic* (0.5 crs) 18:821:543	General GSAPP Clinic* (0.5 crs) 18:821:543	
6. Practicum** (internal or external) (3 crs) 18:820:689	Practicum** (internal or external) (3 crs) 18:820:689	
+Required for General Comprehensive Exams		

++Required for Clinical Comphrehensive Exams		
*2nd -year Clinic: Plan half-day commitment that will include a combination of assessment and therapy. 2nd year students will get priority for assessment (est. > 2).		
**Practica: Any year you do a practicum (including internal practica you will register for Fall and Spring credits; this will cover summer. You will ALSO register the practicum with the practicum coordinator through GSAPP web, including Summer-only practica.		
	Third Year	
Fall Semester	Spring Semester	Summer Semester
1. History and Systems (3 crs) 18:820:550	Training, Supervision & Consultation (3 crs) 18:821:655	Rising 4th year-students that intend to see clients or do assessments over the summer months of July and August you must register for clinic credits (0.5 crs) 18:821:543
2. Required Elective 1 (3 crs)	Dissertation - Part 1 (3 crs) 18:820:702	
3. Required Elective 2 (3 crs)	Required Elective 3 (3 crs)	
4. General GSAPP Clinic* (0.5 crs) 18:821:543	General GSAPP Clinic* (0.5 crs) 18:821:543	
5. Practicum** (internal or external) (3 crs) 18:820:689	Practicum** (internal or external) 3 crs) 18:820:689	
	Clinical Orals (request committee 4-6 months in advance of orals) and pass orals (and any remediation) by June 1 in the year you plan to apply for internship.	
* Please take note: Students are required to register for six 3-credit courses over the Fall and Spring semesters of their 3rd year. The allotment of courses can be either as four 3-credit courses in one semester and two 3-credit courses in the other semester (i.e., 4 and 2, or 2 and 4), or the allotment can be divided into three 3-credit courses in each semester (i.e., 3 and 3). Exceptions must be requested through Department Chair.		
* For students entering Fall 2019-Commencing with students who matriculate in fall of 2019, the third year of classes will consist of 12 credits in the fall, and 12 credits in the spring.		
*>3rd -year Clinic: 3rd -year students are requred to see therapy/assessment cases. For any years after 3rd -year, register for .5 credits in any semester you are seeing cases/assessments.		

**Practica: Any year you do a practicum (including internal practica you will register for Fall and Spring credits; this will cover summer. You will ALSO register the practicum with the practicum coordinator through GSAPP web, including Summer-only practica.		
	Fourth Year	
Fall Semester	Spring Semester	Summer Semester
1. Dissertation - Part 2 (3 crs) 18:820:701	Dissertation Part 3 (3 crs) 18:820:702	
2. (Optional) General GSAPP Clinic*(0.5 crs) 18:821:543	(Optional) General GSAPP Clinic* (0.5 crs) 18:821:543	
3. Practicum** (internal or external) (3 crs) 18:820:689	Practicum** (internal or external) (3 crs) 18:820:689	
Apply for Internship (Fall of either 4th or 5th year):		
(Note: Must have completed all developmental milestones and benchmark competencies, including:		
- Passed Written Comprehensive Exams (general and clinical) and completed any remediation (see Student Handbook for deadlines).		
- Passed Oral Comprehensive Exams by June 1		
Supervision & Professional Development (1 cr): 18:821:653		
Dissertation (9 total credits, 3 of which may be from optional dissertation Preparation & Research course: 18:820:700)		
	Fifth Year	
Fall Semester	Spring Semester	
1. Internship in Clinical Psychology (3 crs) 18:821:657	Internship in Clinical Psychology (3 crs) 18:821:658	
A total of 93 credits and 1,080 hours of supervised practica, with an array of experiences, is required. An approved internship of 1,750 hours is also required.		
*>4th -year Clinic (Optional): For any years after 3rd -year, register for 0.5 credits in any semester you are seeing cases/assessments.		

**Practica: Any year you do a practicum (including internal practica you will register for Fall and Spring credits; this will cover summer. You will ALSO register the practicum with the practicum coordinator through GSAPP web, including Summer-only practica.

Psy.D. Program in Clinical Psychology (Department of Clinical Psychology) (GSAPP)

Internship Placements--Clinical Psychology Psy.D. Program

Internship Placements--Clinical Psychology Psy.D. Program

Internship Placements

2022-2025

Internship (Site Name)	Internship (City)	Internship (State)
Albert Einstein College/Montefiore Medical Center	Bronx	NY
Andrus Children's Center	Yonkers	NY
Baruch College, CUNY	New York	NY
Baylor College of Medicine	Houston	TX
Bellevue - NYU Grossman School of Medicine	New York	NY
Childrens hospital Los Angeles	Los Angeles	CA
Cooper University Health Care	Camden	NJ
Department of Veterans Affairs	Lyons	NJ
Department of Veterans Affairs/New Jersey Health Care System	East Orange	NJ
Edith Nourse Rogers Memorial Veterans Hospital	Bedford	MA
Elmhurst Hospital Center	Elmhurst	NY
Hudson Valley-Montrose VA	Montrose	NY
Jackson Health System/Univ of Miami Miller	Miami	FL
Jacobi - NYC Health + Hospitals	Bronx	NY
James J. Peters VA Medical Center	Bronz	NY
Jesse Brown VA Medical Center	Chicago	IL
Kings County Hospital	Brooklyn	NY
Lenox Hill Hospital Northwell Health	New York	NY
Maimonides Medical Center	Brooklyn	NY
Manhattan Psychiatric Center	New York	NY
Miami Veterans Affairs Medical Center	Miami	FL
Milton Hershey School	Hershey	PA
Montefiore Medical Center/Albert Einstein College of Medicine	Broxn	NY
Mount Sinai Behavioral Health Center	New York	NY
Mt. Sinai Services, Elmhurst Hospital	Elmhurst	NY
New York Presbyterian Hospital - Columbia University Medical Center	New York	NY

New York University - Bellevue Hospital Center	New York	NY
NY/NJ VA Health Care Network/VA Western New York Healthcare System	Buffalo	NY
Perelman School of Medicine-University of Pennsylvania Philadelphia VA Medical Center	Philadelphia	PA
Rutgers Behavioral Health Care	Newark	NJ
Rutgers University Behavioral Health Care	Piscataway	NJ
RWJBH Trinitas Regional Medical Center	Elizabeth	NJ
Stony Brook University-Krasner Psychological Center	Stony Brook	NY
Trinitas Regional Medical Center	Elizabeth	NJ
University of Albany	Albany	NY
University of Miami Miller School of Medicine	Miami	FL
VA New York Harbor Health Care System/Margaret Cochran Corbin Campus	New York	NY
VA NY Harbor Healthcare System, BRooklyn Campus	Brooklyn	NY
Veterans Affairs New Jersey Health Care System	East Orange	NJ
Veterans Affairs NY Harbor HCS-Manhattan Campus	New York	NY
Wellspan Philhaven CBT	York	PA
West Palm Beach VA Medical Center	West Palm Beach	FL
Westchester Jewish Community Services	White Plains	NY
Woodhull North Brooklyn Health Network	Brooklyn	NY
Youth Consultation Service Institute	East Orange	NJ

Psy.D. Program in Clinical Psychology (Department of Clinical Psychology) (GSAPP)

Practicum Placements--Clinical Psychology Psy.D. and Ph.D. Programs

Practicum Placements--Clinical Psychology Psy.D. and Ph.D. Programs

Practicum Placements

2020-2023

Behavioral Health Institute of Monmouth County - Hazlet, NJ
Bellevue NYC Health & Hospitals: Child and Adolescent Track, Adolescent Inpatient Treatment Specialty - New York, NY
Bellevue NYC Health & Hospitals: Adult Track, Substance Use Treatment Specialty - New York, NY
Center for the Treatment and Study of Anxiety, Perelman School of Medicine/University of Pennsylvania - Philadelphia, PA
Child Mind Institute - New York, NY
Children's Day Unit at the New York State Psychiatric Institute/Columbia University Medical Center - New York, NY
Children's Hospital of Philadelphia Child and Adolescent Mood Program - Philadelphia, PA
Children's Specialized Hospital - Mountainside, NJ
Columbia Center for Eating Disorders at the New York State Psychiatric Institute
Columbia Day Program- Columbia University Irving Medical Center - New York, NY
Columbia University Medical Center, Adult Outpatient Externship (formerly New York Presbyterian - Columbia University Medical Center - Dept. of Psychiatry, Adult Outpatient Psychiatry Clinics) - New York, NY
Cooper Neuropsychology - Camden, NJ
Cooper University Health Care - Behavioral Medicine - Camden, NJ
Creedmoor Psychiatric Center
Fordham University Center for Psychological Services - New York, NY
Gouverneur/NYC Health + Hospitals
GSAPP- ADHD Clinic
GSAPP - Anxiety Disorders Clinic
GSAPP- Children (and Families) Healing After Trauma (CHAT)
GSAPP - Douglass Developmental Disabilities Center (DDDC)
GSAPP - Foster Care Counseling Project (FCCP)
GSAPP Psychological Clinic - Couples Clinic
GSAPP Psychological Clinic - Dialectical Behavior Therapy Clinic- Rutgers (DBT-RU)
GSAPP Psychological Clinic - Group Psychotherapy Services (GPS)
GSAPP- Health Psychology

GSAPP- NJ Hope and Healing- FEMA Grant
GSAPP - Sports Psychology Clinic
GSAPP Psychological Clinic - Tourette Syndrome Therapeutic Program (TS)
GSAPP Psychological Clinic - Youth Anxiety & Depression Clinic (YAD-C)
Highland Park Community Teen Center - Highland Park, NJ
Icahn School of Medicine at Mount Sinai World Trade Center Mental Health Program
Institute for Personal Growth - Highland Park, NJ
International Rescue Committee - Elizabeth, NJ
Jamaica Hospital Medical Center/Adult Inpatient - New York, NY
Jersey Shore University Medical Center - Neptune, NJ
Judge Baker Children's Center - Boston, MA
Lenox Hill Hospital - Outpatient Center for Mental Health - New York, NY
LifeSPAN Lab - Piscataway, NJ
Lincoln Medical Center - Adult Inpatient Track - Bronx, NY
Manhattan Psychiatric Center - New York, NY
McLean Anxiety Mastery Program - Cambridge, MA
McLean-Franciscan Child and Adolescent Inpatient Mental Health Program - Brighton, MA
Montefiore Medical Center - Neuropsychology Assessment Service - Bronx, NY
Montefiore Medical Center - Rose F. Kennedy Children's Evaluation and Rehabilitation Center, Under Five Program - Bronx, NY
Montefiore Medical Center, Psychology Externship in Primary Care, Department of Family and Social Medicine - Bronx, NY
Mount Sinai Adult Psychology Program
Mount Sinai Center for Intensive Treatment of Personality Disorders (CITPD).
Mount Sinai- Comprehensive Adolescent Rehabilitation and
Mount Sinai Coping with Unique Experiences
Mount Sinai Hospital, Department of Psychiatry - Eating and Weight Disorder Program
Mount Sinai- St. Luke's Hospital Adult Outpatient Clinic & Psychiatric Recovery Center

National Institute for the Psychotherapies - New York, NY
New Brunswick Counseling Center/Damon House
New York Presbyterian Hospital- Columbia University Medical Center, Child Track - New York, NY
New York-Presbyterian - Weill Cornell Medicine Track 1: Outpatient Cognitive Behavioral Therapy for Children and Adolescents - New York, NY
New York Presbyterian/Weill Cornell - Program for Anxiety and Traumatic Stress Studies (PATSS) - New York, NY
New York Presbyterian - Westchester Division Track 4: Inpatient CBT on a Women's Unit - New York, NY
New York Presbyterian Hospital - Westchester Division: Track 5: Child and Adolescent CBT Anxiety Disorders - New York, NY
New York-Presbyterian - Westchester Division Track 6: Inpatient DBT on a Personality Disorders Unit - New York, NY
New York-Presbyterian Track 9 Inpatient Adult Addiction Recovery - New York, NY
New York Psychoanalytic Society & Institute - New York, NY
Northwell Health: Center for Attention and Learning
Northwell Health - (formerly LIJ) - Division of Child and Adolescent Psychiatry
Northwell Health - (formerly LIJ) - Zucker Hillside Hospital
Northwell Zucker Hillside Behavioral Health College Partnership
Northwell Health Zucker Hillside Women's Inpatient Unit
Northwell Health Unified Behavioral Health Center (UBHC) for Military Veterans and Their Families
Northwell Health Staten Island University Hospital, Department of Rehabilitation Medicine
NYC Health & Hospitals – Correctional Health Services, Mental Health Training Program, on Rikers Island - Flushing, NY
NYC Health+Hospitals Jacobi - Bronx, NY
NYU Langone Child Study Center - New York, NY
NYU Langone Health: Department of Child and Adolescent Psychiatry: ADHD and Early Childhood Externship - New York, NY
NYU Postdoctoral Program in Psychotherapy and Psychoanalysis (“NYU Postdoc”) - New York, NY
Newark Beth Israel Medical Center Metropolitan Regional Diagnosis and Treatment Center (RDTC) - General and FLEC Tracks - New York, NY

North Central Bronx Hospital (NYC Health + Hospitals – North Central Bronx) - Bronx, NY
OMH Pandemic Stress Response Practicum - Albany, NY
Penn Center for Women's Behavioral Wellness - Philadelphia, PA
Penn Medicine Princeton House Behavioral Health - Princeton, NJ
Penn Medicine Princeton House Behavioral Health Women's Program - Princeton, NJ
Queens Hospital (NYC Health + Hospitals/Mount Sinai)
Rider University Counseling Services - Westminster Campus and Main Campus - Princeton, NJ
Rutgers - EOHSI Clinical Center - World Trade Center Health Program, Clinical Center of Excellence - Piscataway, NJ
Rutgers - RWJ - The Boggs Center on Developmental Disabilities - NJLEND - New Brunswick, NJ
Rutgers - RWJMS - Family Medicine at Monument Square - New Brunswick, NJ
Rutgers - Social-Emotional Character Lab - Piscataway, NJ
Rutgers - The Cancer Institute of New Jersey
Rutgers University Counseling - ADAP and Psychiatric Services (CAPS) - New Brunswick, NJ
Seton Hall University Counseling and Psychological Services (CAPS)
South Beach Psychiatric Center Externship Program - Brooklyn, NY
St. Barnabas Hospital
Steven A Cohen Military Family Clinic at the University of Pennsylvania
Steven A. Cohen Military Family Clinic at the University of Pennsylvania - Philadelphia, PA
Substance Abuse Recovery and Rehabilitation Program (SARRTP) VA NJ Health Care System - East Orange, NJ
Supporting Healthy Relationships program at Montefiore Medical Center/Albert Einstein College of Medicine - Bronx, NY
The Haven, Piscataway School Based Mental Health - Piscataway, NJ
VA New Jersey Health Care System - Mental Health Research and Program Development; Research Placement - Lyons, NJ
VA New York Harbor Healthcare - Brooklyn Campus - Brooklyn, NY
VA New York Harbor Healthcare System - Manhattan Campus - New York, NY
Westchester Medical Center/Maria Fareri Children's Hospital/Boston Children's Health - Hawthorne, NY

YCS Institute for Infant and Preschool Mental Health - Newark, NJ

Psy.D. Program in School Psychology (Department of School Psychology) (GSAPP)

PSY.D. PROGRAM IN SCHOOL PSYCHOLOGY (DEPARTMENT OF SCHOOL PSYCHOLOGY)

Program Purpose and Philosophy

Program Purpose and Philosophy

The doctor of psychology (Psy.D.) program in school psychology at the Graduate School of Applied and Professional Psychology (GSAPP) of Rutgers, The State University of New Jersey, prepares doctoral-level psychologists for professional practice with children and youth in schools and other community settings. We emphasize integration of scientific knowledge with innovation in the delivery of psychological services to individuals, families, groups, and organizations.

The school psychology program is based on the Psy.D./Practitioner-Scholar model of training, initially developed at the 1973 Vail Conference on Levels and Patterns of Professional Training in Psychology. This model places primary emphasis on delivery of psychological services and on the evaluation and improvement of services. The program emphasizes professional practice based on an understanding of research-supported knowledge in the discipline. The program supports a view of professional school psychology practice that is guided by knowledge of the theory and research related to school psychology and by data-based decision-making in the practice setting.

The school psychology program educates and trains graduate students to think psychologically and systematically about the nature of schooling, using a science-based approach to the design, implementation, and evaluation of practices, programs, and services at the individual, group, and organizational levels, in order to support the emotional, social, and academic development of students in schools. School psychology faculty members believe that school psychological service delivery should be grounded in research findings that professional practices or programs are likely to contribute to beneficial results for clients. In addition, faculty members believe that decision-making about initiating, maintaining, modifying, and terminating practices, programs, and services should be data-based and therefore reflective of the individual needs and goals of clients. Throughout the program's curriculum, theoretical and research foundations are integrated with practice issues and didactic training is integrated with field experiences, in part, to emphasize the relationship between science and practice.

Faculty members of the school psychology program educate and train students to provide school psychological services that are referenced to educational and psychological needs and are evidence-based, culturally sensitive, collaborative, and coordinated with other school practices, and informed by literatures on systems and organizational functioning. The program promotes use of an approach to professional practice that includes data-based clarification of needs and concerns, in which evidence is evaluated in terms of its technical reliability, validity, and scientific meaningfulness, and the practitioner seeks to understand the problem or task within a theoretical

framework. The social/organizational context is understood as a critical dimension of professional service delivery. Evaluation of the results of professional activity is seen as an essential component of professional practice. Social responsibility of the school psychologist is also emphasized as it relates to issues such as diversity and social justice.

School psychologists trained in this manner will understand: a) how to provide effective research-based interventions for individual students with an emphasis on addressing emotional, social, and/or behavioral problems that impede learning; and b) how to work with teachers, school administrators, and other stakeholders to develop classroom, school, and other learning environments that promote healthy psychological development and educational achievement.

Psy.D. Program in School Psychology (Department of School Psychology) (GSAPP)

Sample Four-Year School Psychology Program

Sample Four-Year School Psychology Program

First Year

Fall Semester

18:820:507 Learning Theory and Cognitive Behavior Foundations (3)
18:826:532 Basic Therapeutic Strategies with Children and Adolescents (3)
18:826:543 Human Development (3)
18:820:563 Child Psychopathology
18:826:630 Cognitive Assessment (3)
18:826:550 Introduction to School Psychology (3)
18:821:543 General GSAPP Clinic (0.5)

TOTAL CREDITS: 18.5

Spring Semester

18:820:503 Theoretical Foundations: Analytical (2) (first 10 weeks)
18:820:508 Systems Theory and Analysis (3)
18:820:565 Adult Psychopathology (3)
18:820:631 Social-Emotional/Behavioral Personality Assessment: Child (3)
--: ---: --- Required Diversity course or Elective (3)
18:820:689 Professional Practicum Placement (3)
18:826:506 Practicum Group Supervision (1)
18:821:543 General GSAPP Clinic (0.5)

TOTAL CREDITS: 18.5

Summer Semester

18:820:622 Biological Bases of Human Behavior (3)
18:826:555 Exceptional Children in the School, Family, and Community (3)

TOTAL CREDITS: 6

Second Year

Fall Semester

18:820:581 Statistical Methods and Design Analysis (3)

--: ---: --- Required Diversity course or Elective (3)
18:826:557 Psychoeducational Foundations of Learning Disabilities* (3)
18:826:602 School-Based Psychological Interventions (3)
18:820:689 Professional Practicum Placement (3)
18:826:605 Advanced Practicum Supervision in School Psychology (3)
18:821:543 General GSAPP Clinic (0.5)

TOTAL CREDITS: 18.5

Spring Semester

18:820:550 History & Systems of Psychology (3)
18:820:585 Advanced Statistics and Research Design (3)
18:826:544 Pediatric Behavioral Medicine (3)
18:826:612 Consultation Methods (3)
18:820:689 Professional Practicum Placement (3)
18:826:606 Advanced Practicum Supervision in School Psychology (3)
18:821:543 General GSAPP Clinic (0.5)

TOTAL CREDITS: 18.5

Summer Semester

18:820:613 Professional Ethics Standards (3)

18:820:701 Dissertation in Professional Psychology (3)

TOTAL CREDITS: 6

Third Year

Fall Semester

18:826:609 Learning and Academic Interventions: Research to Practice (3)
18:826:558 Adult and Organizational Learning & Change: Effective Program Planning and Implementation (3)
18:820:701 Dissertation in Professional Psychology (3)
18:820:689 Professional Practicum Placement (3)
18:826:605 Advanced Practicum Supervision in School Psychology (3)
18:821:543 General GSAPP Clinic (0.5)

TOTAL CREDITS: 15.5

Spring Semester

18:826:616 Program Evaluation (3)
18:820:702 Dissertation in Professional Psychology (3)
--: ---: --- Required Diversity course or Elective (3)
18:820:689 Professional Practicum Placement (3)
18:826:606 Advanced Practicum Supervision in School Psychology (3)
18:821:543 General GSAPP Clinic (0.5)

TOTAL CREDITS: 15.5

Fourth Year

Fall Semester

18:826:631 Internship in School Psychology (3)

Spring Semester

18:826:632 Internship in School Psychology (3)

Psy.D. Program in School Psychology (Department of School Psychology) (GSAPP)

Sample Five-Year School Psychology Program

Sample Five-Year School Psychology Program

Please note that the follow program is an example of a five-year program, which allows for enrichment through additional courses, research, and/or extra paid practica. We encourage such programs for their training value.

First Year

Fall Semester

18:820:507 Learning Theory and Cognitive Behavior Foundations (3)
18:826:532 Basic Therapeutic Strategies with Children and Adolescents (3)
18:826:543 Human Development (3)
18:820:563 Child Psychopathology (3)
18:826:630 Cognitive Assessment (3)
18:826:550 Introduction to School Psychology (3)
18:821:543 General GSAPP Clinic (0.5)

TOTAL CREDITS: 18.5

Spring Semester

18:820:503 Theoretical Foundations: Analytical (first 10 weeks) (2)
18:820:508 Systems Theory and Analysis (3)
18:820:565 Adult Psychopathology (3)

18:820:631 Social-Emotional/Behavioral/Personality Assessment: Child (3)
--: ---: --- Required Diversity course or Elective (3)
18:820:689 Professional Practicum Placement (3)
18:826:506 Practicum Group Supervision (1)
18:821:543 General GSAPP Clinic (0.5)

TOTAL CREDITS: 18.5

Summer Semester

18:820:622 Biological Bases of Human Behavior (3)
18:826:555 Exceptional Children in the School, Family, and Community (3)

TOTAL CREDITS: 6

Second Year

Fall Semester

18:820:581 Statistical Methods and Design Analysis (3)

--: ---: --- Required Diversity course or Elective (3)

18:826:557 Psychological Foundations of Learning Disabilities* (3)
18:826:602 School-Based Psychological Interventions (3)
18:820:689 Professional Practicum Placement (3)
18:826:605 Advanced Practicum Supervision in School Psychology (3)
18:821:543 General GSAPP Clinic (0.5)

TOTAL CREDITS: 18.5

Spring Semester

18:820:550 History & Systems of Psychology (3)
18:820:585 Advanced Statistics and Research Design (3)
18:826:544 Pediatric Behavioral Medicine (3)
18:826:612 Consultation Methods (3)
18:820:689 Professional Practicum Placement (3)
18:826:606 Advanced Practicum Supervision in School Psychology (3)
18:821:543 General GSAPP Clinic (0.5)

TOTAL CREDITS: 18.5

Summer Semester

18:820:613 Professional Ethics Standards (3)

TOTAL CREDITS: 3

Third Year

Fall Semester

18:826:609 Learning and Academic Interventions: Research to Practice (3)
18:826:558 Adult and Organizational Learning and Change: Effective Program Planning and Implementation (3)
--: ---: --- Required Diversity course or Elective (3) **Can be taken any semester in the 3rd or 4th years**
18:820:689 Professional Practicum Placement (3)
18:826:605 Advanced Practicum Supervision in School Psychology (3)
18:821:543 General GSAPP Clinic (0.5)

TOTAL CREDITS: 15.5

Spring Semester

18:826:616 Program Evaluation (3)
18:820:702 Dissertation in Professional Psychology (3)
18:820:689 Professional Practicum Placement (3)
18:826:606 Advanced Supervision in School Psychology (3)
18:821:543 General GSAPP Clinic (0.5)
--: ---: --- Required Diversity course or Elective (3) **Can be taken any semester in the 3rd or 4th years**

TOTAL CREDITS: 15.5

Fourth Year

Fall Semester

18:820:701 Dissertation in Professional Psychology (3)
18:820:689 Optional Advanced Practicum (Credits Not Required (NR) for degree) (3 NR)

TOTAL CREDITS: 3

Spring Semester

18:820:702 Dissertation in Professional Psychology (3)
18:820:689 Optional Advanced Practicum (Credits Not Required (NR) for degree) (3 NR)

TOTAL CREDITS: 3

Fifth Year

Fall Semester

18:826:631 Internship in School Psychology (3)

TOTAL CREDITS: 3

Spring Semester

18:826:632 Internship in School Psychology (3)

TOTAL CREDITS: 3

Internship Placements and Supervisors--School Psychology Psy.D. Program

Internship Placements -School Psychology Psy.D. Program

APA Approved

- Mount Sinai Morningside & West New York, NY Child Track
- Jewish Child Care Association (JCCA) Brooklyn, NY
- Rutgers Biomedical and Health Sciences Newark, NJ
- New Alternatives for Children-Art 31 Mental Health New York, NY
- Johns Hopkins All Children's Hospital Saint Petersburg, FL
- CARES New York, NY
- Achieve Behavioral Health Airmont, NY School/Child Specialization
- ANDRUS Yonkers, NY Child Outpatient
- The School at Columbia University/CST New York, NY
- Center for Anxiety New York, NY CBT/DBT Focus
- Westchester Jewish Community Services Hartsdale, NY
- Kennedy Krieger/Johns Hopkins/Behavioral Psych Baltimore, MD
- Mount Sinai Hospital/Adolescent Health Center New York, NY
- Nationwide Children's Hospital Columbus, OH
- Audrey Hepburn Children's House/Hackensack Univ MC Hackensack, NJ
- Hennepin Healthcare Minneapolis, MN Child Track
- Auburn University Auburn, AL General Track
- Rochester Institute of Technology-CHST Rochester, NY
- Pittsburgh Psychology Internship Consort (P-PIC) Pittsburgh, PA

GSAPP Approved

- Westchester Institute for Human Development Valhalla, NY
- Sommerville Public Schools, New Jersey
- South Brunswick Public Schools, New Jersey
- The Haven, Piscataway, New Jersey
- The Shepard Schools, New Jersey
- Mount Sinai Division of ADHD, Learning Disabilities, and Related Disorders
- The Quad Prep, NY

Practicum Placements

Practicum Placements

School Psychology Psy.D. Program 2021
Practicum Placements
Rutgers, The State University of New Jersey

Achieve Behavioral Health
Baker Street Behavioral Health
Behavioral Care Center of New Jersey
Brooklyn Learning Center
Caring Cove
Center for Anxiety
Center for Anxiety and Behavior Therapy (CABT)
Center for Hearing and Communication
Chemed Health Center: Center for Health Education, Medicine, & Dentistry
Child Mind Institute - ADHD and Behavior Disorders Center
Child Mind Institute - Anxiety Disorders Center
Child Mind Institute - Autism Clinical Research
Child Mind Institute - Mood Disorders Center
Child Mind Institute - Neuropsychology Externship
Child Mind Institute: Learning and Development Center
Cognitive & Behavioral Consultants of Westchester and Manhattan, LLP
College of Staten Island (CUNY) Counseling Center
Columbia University Irving Medical Center
Community Assistance Resources and Extended Services, Inc.
Cooper Neurological Institute
Devereux Advanced Behavioral Health
Douglass Developmental Disabilities Center (DDDC)
East Jersey State Prison, Rutgers UBHC
Envisage Neuropsychology PC
Growing Minds Psychology
GSAPP - Children (and Families) Healing After Trauma - CHAT
GSAPP - Couples Clinic

GSAPP - Health Psychology Clinic
GSAPP - Paraprofessional Coaching Project
GSAPP - Path Project
GSAPP - Sports Psychology Clinic
GSAPP & DDDC - Chinese Immigrant Parents Autism Support Group
GSAPP Center for Youth Social Emotional Wellness (CYSEW) - ACCESS
GSAPP- ADHD Clinic
GSAPP- NJ Hope and Healing- FEMA Grant
GSAPP- Psychological Services Clinic
GSAPP- Youth Anxiety and Depression Clinic
GSAPP-Tourette's Syndrome Clinic
Home for Anxiety, Repetitive Behaviors, OC and Related Disorders (HARBOR)
International Rescue Committee (Elizabeth NJ)
Jewish Child Care Association (JCCA) - Residential Care
Kean University Counseling Center
Krasner Psychological Center Stony Brook University
Metro Regional Diagnostic and Treatment Center (RDTC)
Metropolitan Detention Center-Brooklyn
Metropolitan Center for Mental Health: Families and Individuals in Recovery (FAIR)
Metropolitan Detention Center-Brooklyn
Mid-Hudson Forensic Psychiatric Center
Navesink Psychological Services
Neurabilities/CNNH NeuroHealth
North Shore Psychological Services
Office of Mental Health, New York State
Rising Ground
Rutgers - EOHSI Clinical Center - World Trade Center Health Program,

Rutgers - LifeSpan ASD Lab
Rutgers - RWJ - The Boggs Center on Developmental Disabilities
Rutgers - The Cancer Institute of New Jersey
Rutgers Center for Adult Autism Services
Rutgers University Behavioral Health Care--Newark
Seton Hall University Counseling and Psychological Services
Sheltering Arms
Stress and Anxiety Services of New Jersey
SUNY Purchase Counseling Center
The Baker Center for Children and Families: Center for Effective Therapy (CET)
The Leaguers
Westchester Institute for Human Development
Westchester Jewish Community Services
Worrywell Collective
Youth Development Clinic (YDC)

Psy.D. and Psy.M. Programs in Organizational Psychology (Department of Applied Psychology) (GSAPP)

PSY.D.AND PSY.M. PROGRAMS IN ORGANIZATIONAL PSYCHOLOGY (DEPARTMENT OF APPLIED PSYCHOLOGY)

Program Purpose and Philosophy

Program Purpose and Philosophy

The purpose of the organizational psychology program is to provide students with the finest possible graduate education for the practice of organizational psychology.

The practice of organizational psychology consists of intervening with organizations to achieve one or more of the following objectives: (1) raise performance, (2) improve processes and relationships, (3) enhance fairness and equity, and (4) increase subjective well-being. Organizational psychologists work within the context of

organizations, although interventions may focus on individuals, pairs of individuals, groups, combinations of groups, or whole organizations. Methods of intervention derive from explicit psychological concepts and theories appropriate to the objectives and entities engaged in change processes. When fully utilized, the practice of organizational psychology begins with assessment or diagnosis, proceeds to design and implementation, and concludes with evaluation of the efforts to bring about change. Organizational psychology is practiced with service-delivering and product-generating organizations from the public, private, and not-for-profit sectors of society. The curriculum provides training in general graduate applied psychology, core organizational psychology, and then advanced and experiential organizational psychology. Any interested applicant can apply and register for up to three core organizational psychology courses (in consultation with the program director), and upon successful completion of those courses, if admitted into the program, may have those courses count toward the Psy.D. in organizational psychology degree program.

Vision/Mission: *The OP Programs will be the premier doctoral and masters programs in the nation, disrupting the status quo with a specific focus on rigorously bridging science and application, equipping graduates with competencies that traverse professional, organizational, and national cultural boundaries by emphasizing theory to guide practice and practice to guide theory, always with the focus on creating and promoting a human-centered high-performance workforce and healthy organizations.*

Psy.D. and Psy.M. Programs in Organizational Psychology (Department of Applied Psychology) (GSAPP)

Psy.M. Sample 2-Year Organizational Psychology Curriculum

Psy.M. Sample 2-Year Organizational Psychology Curriculum

Fall Year 1

18:829:527 Cross-Cultural Organizational Psychology (CCOP)- co-req. Org Psyc (3)

18:829:548 The Science & Practice of Org'al Psychology (3)

18:820:581 Research Methods & Statistics Essentials I (3)

Spring Year 1

18:829:512 Introduction to Personnel & Work Psychology (3)

18:829:534 Introduction to OD & Change (3)

18:820:517 Research Methods & Statistics Essentials II - prereq: Essentials I (3)

Summer Year 1

Elective (3)

Elective (3)

Fall Year 2

18:829:520 Foundations of Qualitative Research for the OP (3)

18:820:508 (Applied) Systems Theory & Analysis (ASTA)- prereq: Intro to OD/Change (3)

18:829:618 Current Topics: Personnel Selection and Assessment - prereq: Intro to Personnel & Work Psyc (3)

Spring Year 2

18:829:542 Occupational Stress & Health Psychology (OSHP)- pre-req Org Psyc (3)

18:829:520 Research Methods & Statistics III OR Advanced Qualitative Analysis - prereq II (3)

18:829:537 Ethics in OP/OD Research & Consulting (3)

Psy.D. and Psy.M. Programs in Organizational Psychology (Department of Applied Psychology) (GSAPP)

PSY.D. Sample 4-Year Organizational Psychology Curriculum

PSY.D. Sample 4-Year Organizational Psychology Curriculum

Fall Year 1

18:829:527 Cross-Cultural Organizational Psychology (CCOP)- co-req. Org Psyc (3)

18:829:548 The Science & Practice of Org'al Psychology (3)

18:820:581 Research Methods & Statistics Essentials I (3)

Spring Year 1

18:829:512 Introduction to Personnel & Work Psychology (3)

18:829:534 Introduction to OD & Change (3)

18:820:517 Research Methods & Statistics Essentials II - prereq: Essentials I (3)

Fall Year 2

18:829:520 Foundations of Qualitative Research for the OP (3)

18:820:508 (Applied) Systems Theory & Analysis (ASTA)- prereq: Intro to OD/Change (3)

18:829:618 Current Topics: Personnel Selection and Assessment - prereq: Intro to Personnel & Work Psyc (3)

Spring Year 2

18:829:542 Occupational Stress & Health Psychology (OSHP)- pre-req Org Psyc (3)

18:829:520 Research Methods & Statistics III OR Advanced Qualitative Analysis - prereq II (3)

18:829:537 Ethics in OP/OD Research & Consulting (3)

Fall Year 3

18:829:617 Emotional Intelligence at Work (3)

18:844:507 Biological Bases of Behavior (3)

18:829:631 Internship in Organizational Psychology (3)

18:820:700 Dissertation Prep and Research (3)

Comprehensive Examination (0)

Spring Year 3

18:829:531 Organizational Diagnosis and Cultural Dynamics (ODCD)- prereq: Intro to OD/Change (3)

18:829:618 Current Topics: Motivation and Leadership - prereq: Org Psyc (3)

18:829:559 Theory and Practice of Training and Development - prereq: Intro to OD/Change (3)

18:820:701 Dissertation Proposal - prereq: Diss. Prep Course (3)

Fall Year 4

18:820:702 Dissertation - prereq: Diss. Proposal (3-6)

Elective

Elective

Spring Year 4

18:820:703 Dissertation (3-6)

Elective

Master of Psychology (Psy.M.) (GSAPP)

MASTER OF PSYCHOLOGY (PSY.M.)

The degree of master of psychology (Psy.M.) is awarded to students matriculated in each of the doctoral programs upon meeting the program requirements noted below; **no students are admitted only for a master's degree except for OP students, who may be admitted to the Psy.M. program.**

The clinical psychology program requires two full years of coursework at the Graduate School of Applied and Professional Psychology (a minimum of 36 credits), of which 27 credits are specific, required courses. Students also must complete at least 12 experiential credits and have successfully completed the general comprehensive examination plus the case-related question of the clinical psychology program comprehensive examination.

The school psychology program requires completion of the first three years of coursework as stipulated in the sample four-year program, eligibility for the New Jersey school psychology certificate, and satisfactory completion of the general comprehensive examination.

The organizational psychology Psy.M. program requires two full years of coursework (42 credits following the OP Psy.M. curriculum) at the Graduate School of Applied and Professional Psychology (GSAPP). Up to 12 credits may be reviewed for eligibility of transfer from other organizational psychology-related graduate programs (a

request to review is not a guarantee of transfer and/or waiver). Students coming in with a master's in organizational psychology or related field will not eligible to earn a second master's in organizational psychology at Rutgers University but will be eligible to obtain the Psy.D. upon fulfillment of the Psy.D. in OP requirements.

Master's in Applied Behavior Analysis (GSAPP)

MASTER'S IN APPLIED BEHAVIOR ANALYSIS

The master's in applied behavior analysis (M.A.B.A.) program in the Department of Applied Psychology at the Graduate School of Applied and Professional Psychology (GSAPP) trains students to become highly-skilled behavior analysts who apply evidenced-based behavioral interventions to address the behavioral challenges of individuals in need. Our program is perfectly aligned with Rutgers University's and GSAPP's mission to train professionals who can integrate scientific knowledge with innovation in the delivery of clinical care that helps individuals and the local, national, and global communities where they live. Students have the opportunity to learn through coursework as well as real-world experiences. Graduates will be well-educated, qualified, and competent direct-service behavior analysts and clinical researchers who have a special commitment to direct community involvement and to underserved populations.

Students who enter our program will receive a 42-credit master's in applied behavior analysis degree, which includes instruction in foundation knowledge of the scientific basis of applied behavior analysis (ABA) as well as education and training in applied areas of behavior analysis. The foundation is based on knowledge of the scientific basis of ABA and the values our school embraces--civic and global citizenship; social justice and helping the underserved; and cultural diversity. It is our expectation that these values will become the lens through which students view human interactions and will be emphasized in their supervision groups. The applied emphasis of the program includes opportunities for students to receive training in socially significant areas of behavior analysis, participate in practicum, and have opportunities to integrate their didactic and applied learning experiences. This program will prepares graduates to become BCBAs who can independently practice ABA or continue to obtain their doctorate in behavior analysis. Students will be required to integrate their learning through participation in supervised fieldwork/practicum in ABA. Additionally, graduate students will demonstrate their clinical and research proficiency through a capstone project or thesis. In sum, our M.A.B.A. program prepare graduates for careers as scientist practitioners who perform public service in support of the needs of the citizens.

Master of Applied Psychology (M.A.P.) (GSAPP)

MASTER OF APPLIED PSYCHOLOGY (M.A.P.)

Students enrolled in our program will earn a 42-credit Master of Applied Psychology (M.A.P.) degree, designed to provide a strong foundation in the scientific principles of psychology, along with specialized training in applied psychological practices. The curriculum reflects the mission of our school by emphasizing civic and global responsibility, social justice, and cultural diversity.

This comprehensive course of study equips students with the knowledge to understand both individual and group behavior. It also develops their ability to apply quantitative and qualitative research methods to examine the physical and environmental factors influencing human behavior. Additionally, students will gain an introductory understanding of behavioral assessment and intervention strategies for psychological disorders while completing a full academic year practicum.

The M.A.P. program prepares graduates with the theoretical knowledge, critical thinking, and problem-solving skills necessary for success in both professional and academic settings. Students will have opportunities to engage in scholarly activities that enhance their competitiveness for doctoral-level programs in psychology and related fields, as well as for careers aligned with a master's-level education in applied psychology.

Overall, students will build a solid foundation in psychological theory, complemented by experiential learning through research or practicum experiences. This integrated approach supports both personal growth and professional development in the diverse fields of applied psychology.

Multi-Tiered Systems of Support (MTSS) (GSAPP)

Multi-Tiered Systems of Support (MTSS) (GSAPP)

Program Purpose and Philosophy

Program Purpose and Philosophy

Pioneered by scholars in education and school psychology, Multi-Tiered Systems of Support (MTSS) is a framework for providing comprehensive academic and behavioral health services for K-12 students. Use of this framework has been strongly advocated by school systems, policymakers, and researchers at the state and national levels. To effectively implement MTSS, school districts may need to provide more comprehensive school-wide programming that requires additional professional development to build or expand their efforts. Training in MTSS is more essential than ever for Teachers, Academic Coaches, Instructional Leaders, School Counselors, School Psychologists, Child Study Team Members, and Administrators to address the ongoing academic and behavioral health needs of students.

The Graduate School of Applied and Professional Psychology (GSAPP) in partnership with the Graduate School of Education (GSE) at Rutgers University offers two convenient learning paths: A 30-credit Master of Applied Psychology in MTSS and an 18-credit Certificate in MTSS focused exclusively on MTSS in school settings. Our MTSS programs have been designed for current or future professionals in education (e.g., general or special educators, instructional leaders, administrators, counselors, psychologists, or other support professionals) who are looking to become agents of change in their schools or districts. These programs equip educators with the knowledge and skills to implement, manage, and enhance MTSS frameworks in K-12 educational settings. MTSS is a proactive, data-driven approach that integrates academic and behavioral supports to improve outcomes for all students. Both the Master's and Certificate programs emphasize the importance of practical, hands-on experience in which students gain valuable insights and skills that they can immediately apply in their professional roles. The MTSS programs

at Rutgers GSAPP also offer flexible learning options, including part-time enrollment and fully online classes. This allows students to balance their studies with their professional responsibilities. Upon completion of the Master's or Certificate program, graduates will be able to:

1. *Design and Implement an MTSS Framework:* Develop a comprehensive, school-based MTSS framework tailored to the specific academic, behavioral, and social-emotional needs of diverse student populations.
2. Utilize Data for Decision Making: Effectively use data to monitor student progress, guide interventions, and adjust supports as needed.
3. *Lead MTSS Initiatives*: Assume leadership roles in educational settings, driving the successful adoption and sustainability of MTSS practices.
4. *Apply Evidence-Based Interventions:* Select and implement interventions that are grounded in research and proven to be effective in supporting students' academic, behavioral, and social-emotional learning needs.
5. *Promote Inclusive Education:* Advocate for and implement practices that ensure all students, including those with disabilities or other learning challenges, have access to the support they need to succeed.

Multi-Tiered Systems of Support (MTSS) (GSAPP)

Master of Applied Psychology-Multi-Tiered System of Support (MAP-MTSS) Option

Master of Applied Psychology-Multi-Tiered System of Support (MAP-MTSS) Option

The MAP-MTSS program is a comprehensive, in-depth course of study that provides students with advanced knowledge of MTSS practices. This program is ideal for professionals seeking leadership roles in education, school psychology, or related fields.

Note: This degree does not lead to a master's in school psychology or a general master's in applied psychology.

1. Duration: 2-3 years (part-time).
2. Credits Required: 30 credits
3. Capstone Project: A hands-on project where students design, implement, or evaluate an MTSS framework in a real-world educational setting.

MAP-MTSS Option Degree Requirements:

MAP-MTSS Option Degree Requirements

Master of Applied Psychology in MTSS (30 Credits)			
Required Foundational Courses			
Course #	**Course**	**School**	**Cr.**
18:820:525	Prevention and Intervention in Tiered Systems (Fall)	GSAPP	3
18:820:526	Assessment and Data-Based Decision Making (Spring)	GSAPP	3
18:820:543	Leadership and Systems Consultation (Fall)	GSAPP	3
Electives (Select 5)			
18:820:533	Data-Based Decision Making in Early Reading (Fall)	GSAPP	3
18:820:541	Using MTSS to Build Comprehensive School-Based Mental Health Programs (Fall or Spring)	GSAPP	3
15:293:535	Teaching in Inclusive Classrooms (Fall and Spring)	GSE	3
18:820:540	Multi-Tiered Systems of Support in Secondary Educational Settings (Spring)	GSAPP	3
18:820:539	Data-Based Decision Making in Early Math Skills (Spring)	GSAPP	3
15:293:TBD	Classroom Organization for Inclusive and Special Classroom	GSE	3
18:820:TBD	Multi-Tiered Social Emotional Learning and Behavioral Supports	GSAPP	3
18:820:TBD	Restorative Practices in Psychological Wellness	GSAPP	3
Capstone Project (Required)			
Course #	**Course**	**School**	**Cr.**
18:820:542	Capstone Project 1 & 2 (Fall and Spring)	**GSAPP**	**6**

Proposed MAP-MTSS Course Sequence

The order in which students take MTSS courses may vary depending on course availability and student schedules.

Semester 1 (6 credits) Prevention & Intervention in Tiered Systems Leadership and Systems Consultation in MTSS	*Semester 4 (6 credits)* Elective #4 Elective #5
Semester 2 (6 credits) Assessment and Data-based Decision Making Elective #1	*Semester 5 (3 credits)* Capstone Project
Semester 3 (6 credits) Elective #2 Elective #3	*Semester 5 (3 credits)* Capstone Project

Master of Applied Psychology-Multi-Tiered System of Support (MAP-MTSS) -MTSS Admissions Requirements and Application Procedures

Master of Applied Psychology-Multi-Tiered System of Support (MAP-MTSS) -MTSS Admissions Requirements and Application Procedures

Master of Applied Psychology-MTSS Admissions Requirements:

1. Bachelor's degree (or advanced undergraduate), or higher degree in education, psychology, or related field
2. Undergraduate transcripts, demonstrating 3.0+ GPA; attach graduate transcripts if available
3. Personal Statement
4. Two letters of recommendation

Master of Applied Psychology-MTSS Applicaton Procedure:

Students must complete an online application and pay a $70.00 application fee. Applications are accepted on a rolling basis, and students may apply for Fall or Spring admissions. Although applications are accepted on a rolling basis, the following application submission dates are recommended.

For Admission:	Application Deadline:
Spring 2026	January 1, 2026
Fall 2026	August 15, 2026
Spring 2027	January 1, 2027
Fall 2027	August 15, 2027
Spring 2028	January 1, 2028

Online Application Link

School Psychology - Multi-Tiered Systems of Support (MTSS) (MAP) Online

Multi-Tiered Systems of Support (MTSS) (GSAPP)

Certificate Program in Multi-Tiered Systems of Support (MTSS)

Certificate Program in Multi-Tiered Systems of Support (MTSS)

The Certificate program is designed for professionals who wish to enhance their knowledge and skills in MTSS without committing to a full master's program. This program is suitable for current educators, administrators, and school psychologists who want to deepen their expertise in this area.

1. Duration: 1.5-3 years (part-time).
2. Credits Required: 18 credits.

MTSS Certificate Requirements

MTSS Certificate (18 Credits)			
Course #	**Course**	**School**	**Cr.**
18:820:525	Prevention and Intervention in Tiered Systems	GSAPP	3
18:820:526	Assessment and Data-Based Decision Making	GSAPP	3
18:820:533	Data-Based Decision Making in Early Reading	GSAPP	3
18:820:543	Leadership and Systems Consultation	GSAPP	3
15:293:535	Teaching in Inclusive Classrooms	GSE	3
15:293:TBD	Classroom Organization for Inclusive and Special Classroom	GSE	3

Proposed MTSS Certificate Course Sequence:

One Course Per Semester*	**Two Courses Per Semester***
Semester 1 (3 credits) 1. Prevention & Intervention in Tiered Systems	*Semester 1 (6 credits)* 1. Prevention & Intervention in Tiered Systems 2. Leadership and Systems Consultation in MTSS
Semester 2 (6 credits) 1. Assessment and Data-based Decision Making	*Semester 2 (6 credits)* 1. Assessment and Data-based Decision Making 2. Data-Based Decision-Making in Early Reading
Semester 3 (3 credits) 1. Leadership and Systems Consultation in MTS	*Semester 4 (6 credits)* 1. Teaching in Inclusive Classrooms 2. Classroom Organization for Inclusive and Special Classroom
Semester 4 (3 credits) 1. Data-Based Decision-Making in Early Reading	
Semester 5 (3 credits) 1. Teaching in Inclusive Classrooms	
Semester 6 (3 credits) 1. Classroom Organization for Inclusive and Special Classroom	

Certificate Program in Multi-Tiered Systems of Support (MTSS) Admissions Requirements and Application Procedures

Certificate Program in Multi-Tiered Systems of Support (MTSS) Admissions Requirements and Application Procedures

MTSS Certificate:

1. Bachelor's degree (or advanced undergraduate), or higher degree in education, psychology, or related field
2. Undergraduate and graduate transcripts
3. Brief Statement of Interest

MTSS Procedures:

Students must complete an online application and pay a $70.00 application fee. Applications are accepted on a rolling basis, and students may apply for Fall or Spring admissions. Although applications are accepted on a rolling basis, the following application submission dates are recommended.

For Admission:	Application Deadline:
Spring 2026	January 1, 2026
Fall 2026	August 15, 2026
Spring 2027	January 1, 2027
Fall 2027	August 15, 2027
Spring 2028	January 1, 2028

Online Application Link

Multi-Tiered Systems of Support (MTSS) (Certificate) Online

Bachelor of Arts/Master of Applied Psychology (M.A.P.) Program (GSAPP)

4+1 BACHELOR OF ARTS/MASTER OF APPLIED PSYCHOLOGY (M.A.P.) PROGRAM

The 4+1 bachelor of arts/master of applied psychology (B.A./M.A.P.) program allows undergraduate students to take a minimum of 6 graduate credits during their senior year of undergraduate studies. Students interested in pursuing an advanced career in psychology or obtaining a doctorate in psychology in the future can apply to the program during their junior year, and can obtain their bachelor's and master's degrees in five years total.

The B.A./M.A.P. program will allow students to

1. accelerate their training through advanced standing;

2. receive graduate-level training with options for specialization in certificate programs such as Certified Alcohol and Drug Counselor (CADC) and eligibility to pursue the licensure level known as the Licensed Alcohol and Drug Counselor (LADC) and Applied Behavior Analysis (BACB);

3. receive curricular instruction, practicum, and applied research experience needed to be prepared for competitive admission criteria for doctoral level studies; and

4. reduce the cost of their graduate education.

Organizational Psychology (OP) (GSAPP)

ORGANIZATIONAL PSYCHOLOGY (OP)

The purpose of the organizational psychology program is to provide students with the finest possible graduate education for the practice of organizational psychology.

The practice of organizational psychology consists of intervening with organizations to achieve one or more of the following objectives: (1) raise performance, (2) improve processes and relationships, (3) enhance fairness and equity, and (4) increase subjective well-being. Organizational psychologists work within the context of organizations, although interventions may focus on individuals, pairs of individuals, groups, combinations of groups, or whole organizations. Methods of intervention derive from explicit psychological concepts and theories appropriate to the objectives and entities engaged in change processes. When fully utilized, the practice of organizational psychology begins with assessment or diagnosis, proceeds to design and implementation, and concludes with evaluation of the efforts to bring about change. Organizational psychology is practiced with service-delivering and product-generating organizations from the public, private, and not-for-profit sectors of society. The curriculum provides training in general graduate applied psychology, core organizational psychology, and then advanced and experiential organizational psychology. Any interested applicant can apply and register and register for up to three core organizational psychology courses (in consultation with the program director), and upon successful completion of those courses, if admitted into the program, may have those courses count toward the Psy.D. in organizational psychology degree program.

Vision/Mission: *The OP Program will be the premier doctoral and masters programs in the nation, disrupting the status quo with a specific focus on rigorously bridging science and application, equipping graduates with competencies that traverse professional, organizational, and national cultural boundaries by emphasizing theory to guide practice and practice to guide theory, always with the focus on creating and promoting a human-centered high-performance workforce and healthy organizations.*

Certificate Program in Performance Psychology (GSAPP)

PERFORMANCE PSYCHOLOGY CERTIFICATE

The certificate in Performance Psychology (to be renamed Sport and Performance Psychology), which leads to eligibility to sit for the Association of Applied Sport Psychology (AASP) certification as a certified mental performance consultant (CMPC).

The purpose of the performance psychology certificate is:

1. To educate and train participants about the relevant body of knowledge that has to do with sport and performance psychology.

2. To assure that participants learn how to practice performance psychology by providing them with instruction and supervised experiences in creating projects, dissertations, and other learning activities that will help them acquire particular knowledge, skills, and abilities in areas of assessment, intervention, consultation, evaluation, professional business planning, organizational analyses, and other related domains.

3. To generate new information about the application of psychology to performance, particularly in the service of the development and performance enhancement of athletes, coaches, parents, administrators, organizations, the performing arts and other relevant performance-based activities.

There is no additional accreditation for this program.

ADMISSION CRITERIA

1. **Educational Background:**
    - A bachelor's degree from an accredited institution is required.
    - Preferred fields of study include psychology, kinesiology, sports science, counseling, education, or related disciplines. This should consist of prerequisite coursework in General Psychology, Sport and Performance Psychology, or Social Justice/Multicultural Psychology.
2. **GPA Requirement:**
    - A minimum undergraduate GPA of 2.75 or better on a 4.0 scale is typically required.
    - Applicants with a lower GPA may provide a written explanation and evidence of relevant professional or academic experience.
3. **Professional Experience (Optional but Preferred):**
    - Experience in sports coaching, athletic performance, mental health counseling, or related fields.
4. **Statement of Purpose:**
    - A 500-750 word essay outlining the applicant's interest in sport psychology, career goals, and how the certificate program aligns with their aspirations.
5. **Letters of Recommendation:**
    - Two letters of recommendation from academic or professional references who can attest to the applicant's qualifications, motivation, and potential for success in graduate-level study.
6. **Resume or Curriculum Vitae:**
    - A detailed resume or CV highlighting educational achievements, professional experience, certifications, and other relevant qualifications.

CURRICULUM

Course content is directly related to the task list and knowledge content areas required by the Association of Applied Sport Psychology (AASP) and the American Psychological Association (APA), leading to eligibility for the AASP CMPC certification.

AASP: Professional ethics and standards, sport psychology (theory, research and practice of sport psychology), sport science (physiological, biomechanical, motor, sociocultural, and philosophical bases of behavior), psychopathology, helping relationships, research methods and statistics, psychological foundations of behavior (biological, cognitive, affective, social, and individual difference bases of behavior), and diversity and culture.

APA: training in psychological skills of athletes, in the well-being of athletes, in the systemic issues associated with sports organizations and in developmental and social aspects of sports participation. Knowledge of theory and research in social, historical, cultural and developmental foundations of sport psychology; Principles and practices of applied sport psychology, including issues and techniques of sport-specific psychological assessment and mental skills training for performance enhancement and satisfaction with participation; Clinical and counseling issues with athletes; Organizational and systemic aspects of sport consulting; Understanding of the developmental and social issues related to sport participation; Knowledge of the biobehavioral bases of sport and exercise (e.g., exercise physiology, motor learning, sports medicine).

The applied portion of the program requires that students complete direct services for athletes at all levels, both in the individual and team models. Students can choose to register for Practicum (Professional Practicum Placement I) and earn credit toward the performance training or can complete these applied hours under the supervision of another AASP-certified supervisor.

COURSES

*Courses set forth by AASP include eight domains: Professional Ethics and Standards, Sport Psychology, Sport Science, Psychopathology, Helping Relationships, Research Methods & Statistics, Psychological Foundations of Behavior, Diversity and Culture.

*Students with a master's in an allied profession may need one area instead of another, especially for sport psychology and sport science (K2 and K3). Individual transcripts will be reviewed to determine if a substitute is required and approved by the Director.

*400 hours of mentored experience are required to complete the CMPC, along with the successful completion of the AASP examination. This is not included nor guaranteed as a part of this certificate program.

1. Assessment and Intervention in Sport and Performance Psychology 18:844:617 **2. Sport and Performance Psychology Theory and Practice** 18:844:618 **3. Advanced Sport and Performance Psychology (Coming Soon)** 18:844:619
4. Civic and global citizenship, social justice, and cultural diversity *18:844:510^* ***Psychopathology*** *18:844:508^* ***Executive Coaching: Organizational Interventions at the Individual Level*** *18:829:565^* ***Psychology of Work and Careers*** *18:829:548^* *^One of these four courses, or as approved by Director*
5. Exercise Psychology *01:377:455* **Psychophysiology** *16:572:508* **Or other course to meet AASP K3 Sport Science Domain*
****Professional Practicum Placement I (optional)** **18:844:505** ****OPTIONAL**

^ One of the four courses are acceptable, or other courses that aligns with the AASP requirements and are approved by the Director.

*Sport Science courses depend on course offerings from Kinesiology

**Practicum is optional and possible for advanced students that apply and are accepted into the training program, only.

Certificate Program in Suicide Prevention, Practice, and Policy (GSAPP)

SUICIDE PREVENTION, PRACTICE, AND POLICY CERTIFICATE

The School of Public Health in collaboration with The Graduate School of Applied and Professional Psychology offers the first and only online certificate offered by a U.S. university that focuses exclusively on suicide prevention.

For application and additional information contact:

admissions@sph.rutgers.edu

Admission Requirements

Students are required to have completed an accredited undergraduate program in the U.S. or its equivalent and demonstrated academic achievement in an appropriate discipline.

The certificate is intended for working professionals and students in:

- **Healthcare:** Psychology, public health, social work, addiction, nursing, medicine
- **Social and criminal justice:** Law, public policy, social policy, social welfare, criminology
- **Organizational settings:** Corporations, the military, universities
- **Media:** Journalism, mass communications, social media

Curriculum and Learning Outcomes

This 12-credit program focuses on clinical, organizational, workplace, public health, and policy approaches to suicide prevention. This unique approach to suicide prevention education will ensure that learners acquire knowledge of the economic, political, commercial, and social determinants of suicide. The certificate will prepare learners to implement, evaluate, and critique suicide prevention strategies at a time when the U.S. is experiencing rising suicide rates.

Students can complete the certificate in two to three semesters, or they can plan a schedule for completing the courses over a two-year period (maximum timeframe). The online course offerings make it convenient to continue working or gain experience while earning the certificate.

Depending on the degree program and concentration, certificate courses may also be applied toward a degree at the Rutgers School of Public Health. Certificate holders must apply and be admitted to the degree program.

Learning Outcomes

- Identify novel policy levers, health services interventions, or community initiatives that could decrease the suicide rate.
- Summarize current evidence for individual-level suicide interventions and population-level suicide prevention strategies.
- Summarize gold standard assessment tools for suicide risk used in specific contexts.
- Evaluate the role of social, community, policy, or commercial factors in amplifying or mitigating suicide risk.
- Evaluate current knowledge about suicide with respect to diverse identities and communities.

Courses

Courses are all fully online.

- **HBSP 0682** - Understanding Suicide: Facts, Myths, & Solutions (3 cr.)
- **HBSP 0683** - Societal, Commercial, and Policy Determinants of Suicide (3 cr.)
- **HBSP 9512** - Evidence-Based Clinical Interventions for Suicide (3 cr.) *Cross-listed with 512:90 at Rutgers Graduate School of Applied and Professional Psychology*

- **HBSP 9513** - Suicide Risk Assessment Across Populations and Settings (3 cr.) *Cross-listed with 511:90 at Rutgers Graduate School of Applied and Professional Psychology*

Total Credits: 12

Graduates of CEPH-accredited schools and programs of public health may transfer up to six (6) credits towards a certificate program if earned within the past seven years with a grade of B or better and are deemed appropriate by the respective Certificate Program Coordinator.

Clinical Child, Adolescent, Family, and Pediatric Psychology (CCAFP) Concentration (GSAPP)

CLINICAL CHILD, ADOLESCENT, FAMILY, AND PEDIATRIC (CCAFP) CONCENTRATION AT GSAPP

I. Aim and Purpose

The purpose of Clinical Child, Adolescent, Family, and Pediatric Psychology (CCAFP) concentration at GSAPP is to promote the advancement of, and formalize the competencies for, graduate training in clinical child and adolescent psychology and pediatric psychology. Extant definitions of CCAFP include education and training for research and practice that brings together the basic tenets of professional and health service psychology with a thorough background in applied clinical sciences and practices focusing on children (defined as those under the age of 18 for the purpose of this concentration) and families.

Clinical child and pediatric psychologists conduct scientific research and provide psychological services to infants, toddlers, children, and adolescents, and their families. The research and practices conducted by clinical child and pediatric psychologists focus on understanding, preventing, diagnosing, and treating psychological, cognitive, emotional, social, behavioral, and family problems of children in a variety of settings, including inpatient and outpatient clinics, children's hospitals, schools, mental health centers, and other entities in the community. Of particular importance is a scientific understanding of the basic psychological needs of children and adolescents and how their influential social contexts, such as parents, peers, and teachers, influence socio-emotional adjustment, cognitive development, behavioral adaptation, and health status of children and adolescents. Training also includes inter-professional functioning with a range of mental health and health care professionals, including physicians, psychiatrists, nurses, social workers, dieticians, speech therapy and audiologists, among others. This CCAFP concentration recognizes a critical need for better documentation and further improvements of evidence-based assessments and treatments for the children, adolescents, and families served. Thus, a major emphasis of the formal training and practice will be guided by the most up-to-date empirical research base.

For greater information on the specialty of clinical child and adolescent psychology, and its place in the spectrum of psychological specialties, please go to the website.

Faculty Sponsors

Faculty Sponsors

CCAFP Faculty Sponsors

Brian Chu, Ph.D.

Erum Nadeem, Ph,D.

Competencies

Competencies

The CCAFP concentration aims to ensure that all CCAFP students have been exposed to, and have developed competencies appropriate for entry-level professionals in the following domains:

1. Human Development
2. Child and Adolescent Psychopathology/Developmental Psychopathology
3. Child and Adolescent Assessment
4. Youth-focused Intervention Approaches
5. Multiple Systems Influences on Youth Development and Functioning.
6. Individual, Familial and Community Diversity
7. Research relevant to child and adolescent populations, development, and developmental psychopathology.

Summary of Requirements

Summary of Requirements

Requirements for the CCAFP concentration are:

1. Successful completion (defined as obtaining grade of B or better) of at least six (6) courses that focus on clinical child and adolescent or pediatric psychology [examples below];
2. Satisfactory completion (defined as meeting all expectations for the professional competencies defined by the Clinical or School Program) of two (2) full-time clinical practica [defined below]; and
3. Successful completion of a doctoral dissertation (defined as successfully defending dissertation) that focuses on issues relevant to, or includes as samples of, child and adolescent populations.

Concentration Handbook

Concentration Handbook

CCAFP Concentration Handbook (detailed requirements)

Clinical Child, Adolescent, Family, and Pediatric Psychology (CCAFP) Concentration (GSAPP)

Requirements Checklist Form

Requirements Checklist Form

See the Requirements Checklist form.

Community Psychology Concentration (GSAPP)

COMMUNITY PSYCHOLOGY CONCENTRATION

The Community Psychology concentration at GSAPP involves a number of related courses, practicum experiences, and research opportunities. Students can pursue this concentration through any of the existing doctoral programs: Clinical, Organizational, or School Psychology.

Community Psychology Concentration (GSAPP)

Definition of Community Psychology

Definition of Community Psychology

By integrating research with action, Community Psychology seeks to understand and enhance the quality of life of individuals, communities, and societies. Community Psychology approaches are characterized by collaboration with stakeholders, interventions that focus on prevention and wellness promotion, ecological and systems levels of analysis and action, an outreach versus waiting orientation, and a commitment to empowering underserved communities.

Community Psychology Concentration (GSAPP)

Requirements

Requirements

A. Practicum

The Community Psychology Practicum should take place over a minimum of one semester (approximately one day per week). Students should submit a proposal to the Community Psychology Concentration Practicum

Subcommittee. The proposal should include: (1) a statement of the purpose and goals of the practicum, (2) practicum site/setting, (3) student training goals, (4) a description of the supervisor's expertise that will support learning in the practicum, and (5) contributions to the community/organization.

B. Courses
1. Theoretical Foundations of Intervention: Systems

2. Program Evaluation
3. Psychological Interventions Ethnic & Racial Minority Clients and Families, Equity and Anti-Racism in Education, or Diversity and Racial Identity

Choice of **one** of the following:

- Adult and Organizational Learning & Change
- Family Therapy
- Consultation Methods
- Public Policy in Mental Health
- Course from another Rutgers unit such as Public Health or Ph.D. Psychology approved by CPC faculty.

C. Dissertation
A Community Psychology Dissertation is *encouraged* but not required. The topic would relate to Community Psychology. The dissertation committee would include at least one faculty member who has the expertise to guide the dissertation from a Community Psychology perspective.

Procedure for Declaring a Community Psychology Concentration
A form listing the requirements, with check boxes next to each, is to be completed by the student and signed by the Community Psychology Coordinator. The form is then inserted into the student's file, and the Coordinator keeps a roster of students who have declared the concentration.

Community Psychology Concentration (GSAPP)

Community Psychology Faculty

Community Psychology Faculty

German Cadenas, Ph.D.

Jamie Walkup, Ph.D.

Biographical Sketches

German Cadenas

Jamie Walkup

Health Psychology Concentration (GSAPP)

HEALTH PSYCHOLOGY CONCENTRATION

Health Psychology Specialization

The purpose of the health psychology specialization at GSAPP is to promote the advancement of, and formalize the competencies for, graduate training in clinical health psychology and integrated behavioral medicine. Health psychology applies psychological theory, methods, and treatment to understand and promote physical health. Health psychology is based on the biopsychosocial model, which posits that biological, psychological, and social processes are centrally and interactively involved in physical health and illness. This initially provocative premise has fueled major advances in psychology, medicine, nursing, and public health over the past 25 years.

Objectives

The concentration in health psychology has the following objectives:

1. Introduce students to the field of health psychology
2. Provide a range of coursework in theoretical, methodological, and applied areas of health psychology so that students can individualize their learning of particular areas of health psychology.
3. Encourage students to engage in health psychology-related research and applications and prepare them for careers in health psychology.

Health Psychology Faculty Sponsor

Kristen Riley, PhD

Competencies

Competencies

The health psychology concentration aims to ensure that all health psychology students have been exposed to and have developed competencies appropriate for entry-level professionals in the following domains:

1. Clinical health psychology
2. Behavioral medicine
3. Health psychology and behavioral medicine related intervention approaches (e.g., smoking cessation, cognitive behavioral therapy for insomnia [CBT-I])
4. Health disparities
5. Individual, familial, and community diversity
6. Dissemination and implementation science
7. Research relevant to health psychology and behavioral medicine populations

Summary of Requirements

Summary of Requirements

Requirements for the health psychology concentration differ for school and clinical psychology students and are:

1. Successful completion (defined as obtaining a grade of B or better) of at least three (3) courses that focus on clinical health psychology as described in the Concentration Handbook.
2. Satisfactory completion of required practicum experiences (defined as meeting all expectations for the professional competencies defined by the clinical or school program). Distinct requirements for clinical and school students are described in the Concentration Handbook.
3. Attendance to two interprofessional education events through the Office of Interprofessional Education.
4. Successful completion of a doctoral dissertation (defined as successfully defending dissertation) that focuses on issues relevant to, or includes as samples of, health psychology as described in the Concentration Handbook.

Health Psychology Concentration (GSAPP)

Requirements Checklist Form

Requirements Checklist Form

Health Psychology Concentration Requirements Checklist Form

Health Psychology Concentration (GSAPP)

Specialization Handbook

Specialization Handbook

Health Psychology Specialization at GSAPP Student Handbook Entry

Multicultural Psychology Concentration (GSAPP)

MULTICULTURAL PSYCHOLOGY CONCENTRATION

The multicultural psychology concentration offers students the opportunity to augment their multicultural education at the Graduate School of Applied and Professional Psychology by specializing in the provision of psychological services that are sensitive to individuals with differing worldviews. Through supervised training, coursework, applied work, research, and experiential learning, students learn specialized knowledge, skills, and

awareness of cultural dimensions that shape worldviews, such as race, ethnicity, age, gender identity and expression, sexual orientation, disability, socioeconomic status, nationality, language, and religious/spiritual orientation.

- **Procedure for Declaring a Multicultural Psychology Concentration**
  A form listing the requirements, with check boxes next to each, is to be completed by the student and signed by one of the multicultural psychology concentration program faculty sponsors. The form is then inserted into the student's file, and the faculty sponsors keep a roster of students who have declared the concentration. Once a year, students must update this form and submit it to the faculty sponsors.
- **Multicultural Faculty Sponsors**

Shalonda Kelly, Ph.D.

Multicultural Psychology Concentration (GSAPP)

Competencies

Competencies

1. Cultural Awareness and Knowledge of Self and Others: Students demonstrate awareness of how dimensions of culture and identity influence the beliefs, values, and assumptions of themselves and others, which consequently shape perceptions and interpersonal interactions. Students should also be familiar with theory and research related to multicultural psychology and diversity issues.

2. Culturally Appropriate Skills in Applied Psychological Practices: Students incorporate cultural awareness and knowledge into psychological skills in a variety of settings, including clinical, school, consulting, and organizational settings.

3. Research: Students are able to design and conduct research using methodology that incorporates issues of culture and diversity, as well as to critically evaluate research with respect to multicultural issues.

4. Organizational Change, Program Planning, and Policy Development: Students are engaged in activities that promote diversity in organizations, including the Graduate School of Applied and Professional Psychology, and facilitate the development of culturally informed policies.

Multicultural Supervision Course and/or Focus on our Diversity (FOOD) Groups

Multicultural Psychology Concentration (GSAPP)

Requirements

Requirements

A. Practicum Activities (Required)

Student should be involved with at least three of the following seven activities in practica. These can be done over several practica amounting to a total length of time of one year.

1. Psychological interventions with individuals, groups, families, couples from diverse backgrounds (e.g., age, SES, ethnicity, race, sexuality, etc.)
2. Assessments with individuals, groups, families, couples from diverse backgrounds (e.g., age, SES, ethnicity, race, sexuality, etc.)
3. Participate in didactic presentations on cultural competence
4. Supervision incorporating cultural competence
5. Outreach with culturally diverse groups
6. Provide consultation/training to other professionals around cultural issues
7. Plan, development, or evaluate programs to provide culturally informed psychological services

This practicum must be supervised by a professional with appropriate credentials and experience and is subject to approval by the multicultural concentration program faculty sponsors based on a brief student proposal of the practicum.

B. Multicultural Supervision Course: Two Semesters (Required)

Two semesters, one class meeting per week. The supervision will allow for case presentations and peer supervision of individual, couple, and/or group cases seen at various practica.

C. Courses (Required)

1. Core courses currently required for all GSAPP students -- choice of one of the following:
    1. Psychological Interventions with Ethnic Minority Clients and Families
    2. Diversity and Racial Identity
    3. Psychodynamic Therapy with Diverse Populations
    4. Treatment At-Risk Ethnic Minority Adolescents in Clinics and Schools
2. Systems Theory and Analysis (required of all students)
3. Choice of one of the following (not including one that has already been covered above)
    1. Psychological Interventions with Ethnic Minority Clients and Families
    2. Diversity and Racial Identity
    3. Psychodynamic Therapy With Diverse Populations
    4. Gender and Psychotherapy, *and* Gay, Lesbian, and Bisexual Issues (two courses for total of 3 credits)
    5. Program Planning and Evaluation
    6. Integrative Perspectives on Trauma
    7. Treatment At-Risk Ethnic Minority Adolescents in Clinics and Schools
    8. Crisis Intervention

**In addition, students are encouraged to obtain didactic instruction outside of GSAPP courses through attendance at conferences (e.g. Teacher's College Winter Roundtable, Boston Culture Conference, GSAPP Culture Conference).*

D. Multicultural Dissertation or Research (Required)

A multicultural psychology dissertation or research experience is required to build students' competency in multicultural research, which is one of the four major competencies of the concentration. The research experience may be met via a literature review on a multicultural topic, and the review can be done as part of a course requirement, such as the term paper for the Diversity and Racial Identity course. Or, the research experience may be met via participation in a research project with a faculty member or supervisor who has a multicultural focus. A dissertation should include a topic that is related to multicultural issues and be approved by the multicultural faculty sponsors.

E. Organizational Change and Policy Development (Recommended)

Students are encouraged to apply their knowledge and skills in promoting culturally informed organizational practices and policies. This may be done through various activities, such as taking on leadership roles in student groups at GSAPP, participating in the Committee on Diversity, or planning and evaluating programs around diversity, developing and implementing projects or policies related to culture and diversity at GSAPP, in their practica, or in their workplace.

F. Further Learning (Recommended)

Students are encouraged to engage in further learning by:

- Immersion in foreign language
- Participation in research projects involving multicultural issues
- Community service/volunteer work

Multicultural Psychology Concentration (GSAPP)

Requirements Checklist Form

Requirements Checklist Form

Multicultural Psychology Requirements Checklist form

Certificate in Applied Behavior Analysis (GSAPP)

CERTIFICATE IN APPLIED BEHAVIOR ANALYSIS

The Graduate School of Applied and Professional Psychology offers a certificate program in applied behavior analysis that meets the academic coursework requirements for Board Certification in Behavior Analysis (per the national Behavior Analyst Certification Board (BACB).

Note: In addition to the academic coursework offered by this certificate, individuals pursuing a BACB credential would also need a graduate degree, appropriate supervised experience, and passing grade on the national certification exam.

For application and additional information contact:

Professor SungWoo Kahng
Applied Psychology Department
s.kahng@rutgers.edu

Certificate in Applied Behavior Analysis (GSAPP)

Admission Requirements

Admission Requirements

Students are required to have been admitted to a graduate degree program in a related field (education, psychology) at any university.

Certificate in Applied Behavior Analysis (GSAPP)

Curriculum and Learning Outcomes

Curriculum and Learning Outcomes

Course content is directly related to the task list and knowledge/content areas required by the Behavior Analyst Certification Board (BACB). Course syllabi have been reviewed and approved by the BACB and given the status of Approved Course Sequence.

Required credits: 18

The applied behavior analysis classes are taught in a six-course sequence and are approved by the Behavior Analyst Certification Board (BACB) as meeting the academic requirements necessary for sitting for the certification exam. For information about the BACB's other requirements for certification visit the website.

Learning Outcomes

The courses are designed to provide students with the necessary coursework requirements of the BACB. Students will acquire knowledge in the following essential content areas:

- Concepts and principles of behavior analysis
- Ethical and professional conduct
- Research methods in behavior analysis
    - Measurement
    - Data analysis
    - Experimental design
- Clinical applications of behavior analysis
    - Identification of the problem and assessment
    - Fundamentals of behavior change and specific behavior change procedures
    - Intervention and behavior change considerations
    - Behavior change systems
    - Implementation management and supervision

Courses	Course Numbers	Credits
Basic Principles of Behavior Analysis	18:820:513	3
Introduction to Analysis and Single Case Design	18:820:512	3
Ethics for Behavior Analysts	18:820:521	3
Applications of Behavior Analytic Principles: Changing Behavior	18:820:514	3
Applications of Behavior Analytic Principles: Functional Assessment and Treatment Development	18:820:516	3
Advanced Topics in Behavior Analysis: Teaching Children with Autism and Related Disorders	18:820:517	3
TOTAL		**18**

Degree Requirements (GSAPP)

DEGREE REQUIREMENTS

Psy.D. Degree Requirements

M.A.B.A. Degree Requirements

M.A.P. Degree Requirements

M.T.S.S. Degree Requirements

O.P. Degree Requirements

Clinical Psy.D. Degree Requirements (GSAPP)

CLINICAL PSY.D. DEGREE REQUIREMENTS

The doctor of psychology (Psy.D.) is the degree offered by the Graduate School of Applied and Professional Psychology. It is conferred in recognition of demonstrated excellence in professional practice, scholarship, and investigation and evaluation of a special area within the field.

Clinical Psy.D. Degree Requirements (GSAPP)

Credit Requirements

Credit Requirements

Entering Clinical PsyD students regardless of level, must devote a minimum of three years of full-time study, and one-year of a full-time APA-accredited pre-doctoral internship acquired through the National Match, to be eligible for the doctor of psychology (Psy.D.) degree. The Clinical Psy.D. requires a minimum of 93 academic credits and at minimum,1080 hours of supervised practica.

Clinical Psy.D. Degree Requirements (GSAPP)

Transfer of Credit and Residence Requirements for Advanced Students

Transfer of Credit and Residence Requirements for Advanced Students

Graduate courses completed at other institutions, if they would normally form a part of the student's field of concentration, may be accepted for credit toward the doctorate. The responsibility for requesting transfer of credit lies with the student, in consultation with their adviser. Research, independent study, internship, practicum, or courses with a grade lower than B are not transferable. A maximum of 30 graduate credits may be transferred.

Students Entering with Prior Graduate Education

For students entering the Rutgers school psychology program with prior graduate education, and who may desire to transfer credit/and or waive courses, the following policies and procedures are applicable:

1. Students who have completed master's degrees or other graduate education from other accredited universities may transfer up to 30 credits of graduate coursework and may waive any courses required in the Rutgers school psychology program they have completed.

2. Entering student requests for transfers and waivers are subject to the approval of school psychology faculty after review of syllabi and other written materials from courses that students wish to transfer or waive. Note that some school psychology courses have competency exams that must be passed for successful transfer or waiver.

3. All school psychology program requirements must be met through completion of coursework and fieldwork at Rutgers University or through transfer or waiver.

4. Entering students who obtain faculty approval to transfer and/or waive courses must complete at least 45 credit hours at Rutgers University including 12 credits of advanced practicum, 6 credits of advanced supervision, 6 credits of doctoral internship, and 9 credits of dissertation, as well as didactic courses chosen from unmet school psychology program course requirements or electives. The OP student must complete at least 42 credit hours at Rutgers University, 36 of which must be from within the OP program.

5. All approvals for transfer of credit and waiver of courses must be requested and approved using the Transfer of Credit and Application for Waiver of Required Course forms which are available from the school psychology program administrator.

Clinical Psy.D. Degree Requirements (GSAPP)

Scholastic Standing

Scholastic Standing

Clinical Psychology Program

The faculty may consider a student for possible termination from the school for any of the following: not meeting minimum levels of achievement in each course (i.e., earning less than a B), Incomplete (INC) which have not been remediated to completion, or No Credit (NC) in practica, supervisory courses, or internship; failure to meet criteria for profession wide competencies (PWCs), including unprofessional/unethical behavior; failure to pass any of the three (3) comprehensive examinations (general, clinical and oral); consistent inability to meet practitioner requirements as evidenced by faculty or supervisors' evaluations; or inability to complete a dissertation.

Clinical Psy.D. Degree Requirements (GSAPP)

Time Limits

Time Limits

A student who has earned a master's degree prior to enrollment in the professional school must complete all the requirements of the program within seven years of matriculating as a Graduate School of Applied and Professional Psychology (GSAPP) student.

A student admitted to the doctoral program at the bachelor's degree level must complete all requirements of the program within eight years of the first registration as a GSAPP student.

Extensions may be granted by the department faculty only under extraordinary conditions as detailed in the policy statement printed in the *Student Handbook of Policies and Procedures*. An approved leave of absence does not extend the time limitations for the degree.

Clinical Psy.D. Degree Requirements (GSAPP)

Program Proposal

Program Proposal

The program proposal is an outline of the student's anticipated progression through the Graduate School of Applied and Professional Psychology. All students receive a program proposal form, including applications for waivers of courses and for transfer of course credits, during the summer following admission. Advanced-level students meet with an adviser during their first semester to initiate their individual program proposal. Upon approval of

all waivers by course instructors and approval by the adviser, the proposal is sent for review and approval to the department chair and/or the program director (note that approval is granted by the program director in the Organizational Psychology program). Students entering at the beginning level complete the program proposal during the second semester of their second year and in the Clinical Psy.D. program it is a requirement for the comprehensive examinations.

Following this approval, the student's program may not be materially affected by modifications in staff personnel, program, or school policy. Minor adjustments, reflecting changes in the student's interests and needs, are accomplished through requests initiated with and approved by the student's adviser and department chair.

Clinical Psy.D. Degree Requirements (GSAPP)

Changes in Degree Requirements

Changes in Degree Requirements

The requirements for the doctor of psychology (Psy.D.) degree are intended to provide the strongest possible professional preparation for students undertaking these programs. Therefore, changes are necessary from time to time. Unless the revised requirements fundamentally alter the nature of the work required of the student, either quantitatively or qualitatively, they go into effect immediately.

Substantial alterations are never imposed on students proceeding at a normal rate of progress toward the completion of their work. Students are subject to new curriculum revisions unless they have an approved program proposal.

Clinical Psy.D. Degree Requirements (GSAPP)

Comprehensive Examination

Comprehensive Examination

The purpose of the comprehensive examination is to establish high standards of mastery for the integration of knowledge representing what should be known by professional psychologists and the ability to express that knowledge. Prospective candidates for the doctorate are not permitted to proceed to the comprehensive examination unless their record in coursework and supervision demonstrates evidence of satisfactory progress toward doctoral-level practice. This evidence consists of both grades from course instructors and written evaluations from supervisors

All candidates for the degree of doctor of psychology (Psy.D.) in clinical psychology are required to take the written segments of the comprehensive examination, which are administered each summer, as soon as a major portion of course requirements is completed. No student may take the comprehensive examination until an approved program proposal is on file. In the school psychology program, prior approval by the student's adviser is necessary.

The examination is composed of three parts:

1. The written general part applies to all Graduate School of Applied and Professional Psychology doctoral students and covers areas of knowledge common to the general field of professional psychology. Questions are solicited from and prepared by faculty from each program working jointly. The general part is given over multiple days.

2. The written program part is designed for students in the individual programs and requires knowledge of the particular discipline.

3. The oral specialty part, which is only required by the clinical Psy.D. program, examines a segment of the student's actual work with clients or consultees. The student is expected to present faculty examiners with a written, audio, and/or video of a work sample. The case write-up is to reflect the student's thinking and theoretical orientation. The examination generally lasts one to two hours.

The clinical Psy.D. program requires that the written general and program sections of the comprehensive examination in addition to the oral comprehensive examination be completed successfully before the student is permitted to apply for internship through the national match.

Clinical Psy.D. Degree Requirements (GSAPP)

Professional Dissertation

Professional Dissertation

Each candidate for the doctorate pursues, under faculty direction, an original investigation of a problem pertinent to professional psychological practice or knowledge and presents the results of this investigation in a dissertation. The proposed topic--the problem addressed and the strategy for dealing with it--must be shown to be professionally relevant, i.e., the potential contribution of the dissertation to improved understanding or constructive change in current practice must be explicitly established.

Many topics are suitable as dissertation projects, but may vary across the organizational, clinical and school psychology programs. Students in the Organizational Psychology program complete dissertations within the following categories: 1) Quantitative research study 2) Meta-analyses, and 3) Qualitative research study. School Psychology program complete dissertations within the following categories: 1) Quantitative research study 2) Meta-analyses, 3) Qualitative research study, 4) Systematic case study, and 5) Program Evaluation and Needs Assessment. Along with these five types, students in the Clinical Psychology program may complete dissertations within the additional categories: 1) Program Design, 2) Review of the literature, 3) Theoretical paper, and 4) Alternative approach.

GSAPP students have complete dissertations that are systematic analyses of community needs for professional services; systematic descriptions of services available to meet those needs; case studies of individuals, groups, or organizations in a framework that includes thorough scholarly exploration of the issues the case represents; studies of the technical properties of assessment procedures; studies of the processes of assessment or intervention; and studies of specified client populations.

GSAPP students have also completed dissertations that are conceptual analyses of theoretical, metatheoretical, methodological, or axiological issues in the assumptive foundations of practice; the design, implementation, and evaluation of programs likely to improve professional services; and experimental or quasi-experimental studies of the outcomes of alternative approaches to intervention.

Strategies of inquiry and modes of presentation will vary to suit the topics chosen. In all cases, however, a thorough evaluation of pertinent theoretical and empirical literature is required, and the inquiry must be conducted in the most rigorous and disciplined way that the subject matter and practical circumstances allow. The dissertation must

define clearly the scope as well as the limits of the inquiry. Presentation must be conceptually coherent, consistent with known empirical facts, articulated with prior literature on the topic, linguistically clear, and rhetorically persuasive.

The professional dissertation is assigned 9 credits. The "size" is to be an approximation of the time and effort demands of three core courses (9 credits). As a benchmark, the quality of each dissertation must be sufficiently high to merit publication in an appropriate outlet. The dissertation requirement reflects the Graduate School of Applied and Professional Psychology's understanding that high-quality scholarship is an integral part of professional psychology.

Students may begin the dissertation at any point in the program, but cannot proceed to the oral defense of the dissertation until they have successfully completed the comprehensive examinations.

Clinical Psy.D. Degree Requirements (GSAPP)

Student Handbook

Student Handbook

The *Student Handbook of Policies and Procedures* for the Graduate School of Applied and Professional Psychology is available online. This handbook details information on course-related matters, internship and practicum procedures, university regulations, and departmental and degree requirements.

Psy.D. Program in School Psychology (Department of School Psychology) (GSAPP)

PSY.D. PROGRAM IN SCHOOL PSYCHOLOGY (DEPARTMENT OF SCHOOL PSYCHOLOGY)

Psy.D. Program in School Psychology (Department of School Psychology) (GSAPP)

Program Purpose and Philosophy

Program Purpose and Philosophy

The doctor of psychology (Psy.D.) program in school psychology at the Graduate School of Applied and Professional Psychology (GSAPP) of Rutgers, The State University of New Jersey, prepares doctoral-level psychologists for professional practice with children and youth in schools and other community settings. We emphasize integration of scientific knowledge with innovation in the delivery of psychological services to individuals, families, groups, and organizations.

The school psychology program is based on the Psy.D./Practitioner-Scholar model of training, initially developed at the 1973 Vail Conference on Levels and Patterns of Professional Training in Psychology. This model places primary emphasis on delivery of psychological services and on the evaluation and improvement of services. The program

emphasizes professional practice based on an understanding of research-supported knowledge in the discipline. The program supports a view of professional school psychology practice that is guided by knowledge of the theory and research related to school psychology and by data-based decision-making in the practice setting.

The school psychology program educates and trains graduate students to think psychologically and systematically about the nature of schooling, using a science-based approach to the design, implementation, and evaluation of practices, programs, and services at the individual, group, and organizational levels, in order to support the emotional, social, and academic development of students in schools. School psychology faculty members believe that school psychological service delivery should be grounded in research findings that professional practices or programs are likely to contribute to beneficial results for clients. In addition, faculty members believe that decision-making about initiating, maintaining, modifying, and terminating practices, programs, and services should be data-based and therefore reflective of the individual needs and goals of clients. Throughout the program's curriculum, theoretical and research foundations are integrated with practice issues and didactic training is integrated with field experiences, in part, to emphasize the relationship between science and practice.

Faculty members of the school psychology program educate and train students to provide school psychological services that are referenced to educational and psychological needs and are evidence-based, culturally sensitive, collaborative, and coordinated with other school practices, and informed by literatures on systems and organizational functioning. The program promotes use of an approach to professional practice that includes data-based clarification of needs and concerns, in which evidence is evaluated in terms of its technical reliability, validity, and scientific meaningfulness, and the practitioner seeks to understand the problem or task within a theoretical framework. The social/organizational context is understood as a critical dimension of professional service delivery. Evaluation of the results of professional activity is seen as an essential component of professional practice. Social responsibility of the school psychologist is also emphasized as it relates to issues such as diversity and social justice.

School psychologists trained in this manner will understand: a) how to provide effective research-based interventions for individual students with an emphasis on addressing emotional, social, and/or behavioral problems that impede learning; and b) how to work with teachers, school administrators, and other stakeholders to develop classroom, school, and other learning environments that promote healthy psychological development and educational achievement.

Psy.D. Program in School Psychology (Department of School Psychology) (GSAPP)

Sample Four-Year School Psychology Program

Sample Four-Year School Psychology Program

First Year

Fall Semester

18:820:507 Learning Theory and Cognitive Behavior Foundations (3)
18:826:532 Basic Therapeutic Strategies with Children and Adolescents (3)
18:826:543 Human Development (3)
18:820:563 Child Psychopathology

18:826:630 Cognitive Assessment (3)
18:826:550 Introduction to School Psychology (3)
18:821:543 General GSAPP Clinic (0.5)

TOTAL CREDITS: 18.5

Spring Semester

18:820:503 Theoretical Foundations: Analytical (2) (first 10 weeks)
18:820:508 Systems Theory and Analysis (3)
18:820:565 Adult Psychopathology (3)
18:820:631 Social-Emotional/Behavioral Personality Assessment: Child (3)
--: ---: --- Required Diversity course or Elective (3)
18:820:689 Professional Practicum Placement (3)
18:826:506 Practicum Group Supervision (1)
18:821:543 General GSAPP Clinic (0.5)

TOTAL CREDITS: 18.5

Summer Semester

18:820:622 Biological Bases of Human Behavior (3)
18:826:555 Exceptional Children in the School, Family, and Community (3)

TOTAL CREDITS: 6

Second Year

Fall Semester

18:820:581 Statistical Methods and Design Analysis (3)

--: ---: --- Required Diversity course or Elective (3)
18:826:557 Psychoeducational Foundations of Learning Disabilities* (3)
18:826:602 School-Based Psychological Interventions (3)
18:820:689 Professional Practicum Placement (3)
18:826:605 Advanced Practicum Supervision in School Psychology (3)
18:821:543 General GSAPP Clinic (0.5)

TOTAL CREDITS: 18.5

Spring Semester

18:820:550 History & Systems of Psychology (3)
18:820:585 Advanced Statistics and Research Design (3)
18:826:544 Pediatric Behavioral Medicine (3)
18:826:612 Consultation Methods (3)

18:820:689 Professional Practicum Placement (3)
18:826:606 Advanced Practicum Supervision in School Psychology (3)
18:821:543 General GSAPP Clinic (0.5)

TOTAL CREDITS: 18.5

Summer Semester

18:820:613 Professional Ethics Standards (3)

18:820:701 Dissertation in Professional Psychology (3)

TOTAL CREDITS: 6

Third Year

Fall Semester

18:826:609 Learning and Academic Interventions: Research to Practice (3)
18:826:558 Adult and Organizational Learning & Change: Effective Program Planning and Implementation (3)
18:820:701 Dissertation in Professional Psychology (3)
18:820:689 Professional Practicum Placement (3)
18:826:605 Advanced Practicum Supervision in School Psychology (3)
18:821:543 General GSAPP Clinic (0.5)

TOTAL CREDITS: 15.5

Spring Semester

18:826:616 Program Evaluation (3)
18:820:702 Dissertation in Professional Psychology (3)
--: ---: --- Required Diversity course or Elective (3)
18:820:689 Professional Practicum Placement (3)
18:826:606 Advanced Practicum Supervision in School Psychology (3)
18:821:543 General GSAPP Clinic (0.5)

TOTAL CREDITS: 15.5

Fourth Year

Fall Semester

18:826:631 Internship in School Psychology (3)

Spring Semester

18:826:632 Internship in School Psychology (3)

Sample Five-Year School Psychology Program

Sample Five-Year School Psychology Program

Please note that the follow program is an example of a five-year program, which allows for enrichment through additional courses, research, and/or extra paid practica. We encourage such programs for their training value.

First Year

Fall Semester

18:820:507 Learning Theory and Cognitive Behavior Foundations (3)
18:826:532 Basic Therapeutic Strategies with Children and Adolescents (3)
18:826:543 Human Development (3)
18:820:563 Child Psychopathology (3)
18:826:630 Cognitive Assessment (3)
18:826:550 Introduction to School Psychology (3)
18:821:543 General GSAPP Clinic (0.5)

TOTAL CREDITS: 18.5

Spring Semester

18:820:503 Theoretical Foundations: Analytical (first 10 weeks) (2)
18:820:508 Systems Theory and Analysis (3)
18:820:565 Adult Psychopathology (3)
18:820:631 Social-Emotional/Behavioral/Personality Assessment: Child (3)
--: ---: --- Required Diversity course or Elective (3)
18:820:689 Professional Practicum Placement (3)
18:826:506 Practicum Group Supervision (1)
18:821:543 General GSAPP Clinic (0.5)

TOTAL CREDITS: 18.5

Summer Semester

18:820:622 Biological Bases of Human Behavior (3)
18:826:555 Exceptional Children in the School, Family, and Community (3)

TOTAL CREDITS: 6

Second Year

Fall Semester

18:820:581 Statistical Methods and Design Analysis (3)

--: ---: --- Required Diversity course or Elective (3)

18:826:557 Psychological Foundations of Learning Disabilities* (3)
18:826:602 School-Based Psychological Interventions (3)
18:820:689 Professional Practicum Placement (3)
18:826:605 Advanced Practicum Supervision in School Psychology (3)
18:821:543 General GSAPP Clinic (0.5)

TOTAL CREDITS: 18.5

Spring Semester

18:820:550 History & Systems of Psychology (3)
18:820:585 Advanced Statistics and Research Design (3)
18:826:544 Pediatric Behavioral Medicine (3)
18:826:612 Consultation Methods (3)
18:820:689 Professional Practicum Placement (3)
18:826:606 Advanced Practicum Supervision in School Psychology (3)
18:821:543 General GSAPP Clinic (0.5)

TOTAL CREDITS: 18.5

Summer Semester

18:820:613 Professional Ethics Standards (3)

TOTAL CREDITS: 3

Third Year

Fall Semester

18:826:609 Learning and Academic Interventions: Research to Practice (3)
18:826:558 Adult and Organizational Learning and Change: Effective Program Planning and Implementation (3)
--: ---: --- Required Diversity course or Elective (3) **Can be taken any semester in the 3rd or 4th years**
18:820:689 Professional Practicum Placement (3)
18:826:605 Advanced Practicum Supervision in School Psychology (3)
18:821:543 General GSAPP Clinic (0.5)

TOTAL CREDITS: 15.5

Spring Semester

18:826:616 Program Evaluation (3)
18:820:702 Dissertation in Professional Psychology (3)
18:820:689 Professional Practicum Placement (3)
18:826:606 Advanced Supervision in School Psychology (3)
18:821:543 General GSAPP Clinic (0.5)

--: ---: --- Required Diversity course or Elective (3) **Can be taken any semester in the 3rd or 4th years**

TOTAL CREDITS: 15.5

Fourth Year

Fall Semester

18:820:701 Dissertation in Professional Psychology (3)
18:820:689 Optional Advanced Practicum (Credits Not Required (NR) for degree) (3 NR)

TOTAL CREDITS: 3

Spring Semester

18:820:702 Dissertation in Professional Psychology (3)
18:820:689 Optional Advanced Practicum (Credits Not Required (NR) for degree) (3 NR)

TOTAL CREDITS: 3

Fifth Year

Fall Semester

18:826:631 Internship in School Psychology (3)

TOTAL CREDITS: 3

Spring Semester

18:826:632 Internship in School Psychology (3)

TOTAL CREDITS: 3

Psy.D. Program in School Psychology (Department of School Psychology) (GSAPP)

Internship Placements and Supervisors--School Psychology Psy.D. Program

Internship Placements -School Psychology Psy.D. Program

APA Approved

- Mount Sinai Morningside & West New York, NY Child Track
- Jewish Child Care Association (JCCA) Brooklyn, NY
- Rutgers Biomedical and Health Sciences Newark, NJ
- New Alternatives for Children-Art 31 Mental Health New York, NY

- Johns Hopkins All Children's Hospital Saint Petersburg, FL
- CARES New York, NY
- Achieve Behavioral Health Airmont, NY School/Child Specialization
- ANDRUS Yonkers, NY Child Outpatient
- The School at Columbia University/CST New York, NY
- Center for Anxiety New York, NY CBT/DBT Focus
- Westchester Jewish Community Services Hartsdale, NY
- Kennedy Krieger/Johns Hopkins/Behavioral Psych Baltimore, MD
- Mount Sinai Hospital/Adolescent Health Center New York, NY
- Nationwide Children's Hospital Columbus, OH
- Audrey Hepburn Children's House/Hackensack Univ MC Hackensack, NJ
- Hennepin Healthcare Minneapolis, MN Child Track
- Auburn University Auburn, AL General Track
- Rochester Institute of Technology-CHST Rochester, NY
- Pittsburgh Psychology Internship Consort (P-PIC) Pittsburgh, PA

GSAPP Approved

- Westchester Institute for Human Development Valhalla, NY
- Sommerville Public Schools, New Jersey
- South Brunswick Public Schools, New Jersey
- The Haven, Piscataway, New Jersey
- The Shepard Schools, New Jersey
- Mount Sinai Division of ADHD, Learning Disabilities, and Related Disorders
- The Quad Prep, NY

Practicum Placements

Practicum Placements

School Psychology Psy.D. Program 2021
Practicum Placements
Rutgers, The State University of New Jersey

Achieve Behavioral Health
Baker Street Behavioral Health
Behavioral Care Center of New Jersey
Brooklyn Learning Center
Caring Cove
Center for Anxiety
Center for Anxiety and Behavior Therapy (CABT)
Center for Hearing and Communication
Chemed Health Center: Center for Health Education, Medicine, & Dentistry
Child Mind Institute - ADHD and Behavior Disorders Center
Child Mind Institute - Anxiety Disorders Center
Child Mind Institute - Autism Clinical Research
Child Mind Institute - Mood Disorders Center
Child Mind Institute - Neuropsychology Externship
Child Mind Institute: Learning and Development Center
Cognitive & Behavioral Consultants of Westchester and Manhattan, LLP
College of Staten Island (CUNY) Counseling Center
Columbia University Irving Medical Center
Community Assistance Resources and Extended Services, Inc.
Cooper Neurological Institute
Devereux Advanced Behavioral Health
Douglass Developmental Disabilities Center (DDDC)
East Jersey State Prison, Rutgers UBHC
Envisage Neuropsychology PC
Growing Minds Psychology
GSAPP - Children (and Families) Healing After Trauma - CHAT
GSAPP - Couples Clinic

GSAPP - Health Psychology Clinic
GSAPP - Paraprofessional Coaching Project
GSAPP - Path Project
GSAPP - Sports Psychology Clinic
GSAPP & DDDC - Chinese Immigrant Parents Autism Support Group
GSAPP Center for Youth Social Emotional Wellness (CYSEW) - ACCESS
GSAPP- ADHD Clinic
GSAPP- NJ Hope and Healing- FEMA Grant
GSAPP- Psychological Services Clinic
GSAPP- Youth Anxiety and Depression Clinic
GSAPP-Tourette's Syndrome Clinic
Home for Anxiety, Repetitive Behaviors, OC and Related Disorders (HARBOR)
International Rescue Committee (Elizabeth NJ)
Jewish Child Care Association (JCCA) - Residential Care
Kean University Counseling Center
Krasner Psychological Center Stony Brook University
Metro Regional Diagnostic and Treatment Center (RDTC)
Metropolitan Detention Center-Brooklyn
Metropolitan Center for Mental Health: Families and Individuals in Recovery (FAIR)
Metropolitan Detention Center-Brooklyn
Mid-Hudson Forensic Psychiatric Center
Navesink Psychological Services
Neurabilities/CNNH NeuroHealth
North Shore Psychological Services
Office of Mental Health, New York State
Rising Ground
Rutgers - EOHSI Clinical Center - World Trade Center Health Program,

Rutgers - LifeSpan ASD Lab
Rutgers - RWJ - The Boggs Center on Developmental Disabilities
Rutgers - The Cancer Institute of New Jersey
Rutgers Center for Adult Autism Services
Rutgers University Behavioral Health Care--Newark
Seton Hall University Counseling and Psychological Services
Sheltering Arms
Stress and Anxiety Services of New Jersey
SUNY Purchase Counseling Center
The Baker Center for Children and Families: Center for Effective Therapy (CET)
The Leaguers
Westchester Institute for Human Development
Westchester Jewish Community Services
Worrywell Collective
Youth Development Clinic (YDC)

M.A.B.A. Degree Requirements (GSAPP)

M.A.B.A. Degree Requirements

Students in the Master of Applied Behavior Analysis (M.A.B.A.) program will complete a 42-credit curriculum designed to provide a strong foundation in the scientific principles of behavior analysis, along with specialized training in applied behavior analysis (ABA). The program reflects the school's mission by emphasizing civic and global responsibility, social justice, and cultural diversity.

This comprehensive course of study equips students to make socially significant behavioral changes and to apply single-case research methods to examine environmental influences on human behavior. Students will also gain expertise in behavioral assessment and intervention strategies while completing a full academic year of practicum experience.

The M.A.B.A. program prepares graduates with the theoretical knowledge, critical thinking, and problem-solving skills needed for success in both professional and academic settings. Students will develop clinical competencies aligned with careers in ABA and Board Certified Behavior Analyst (BCBA) certification. Additionally, they will have opportunities to engage in scholarly activities that enhance their competitiveness for doctoral-level programs in ABA and related fields.

Overall, students will build a solid foundation in behavior analysis, enriched by experiential learning through practicum or research. This integrated approach supports both personal and professional growth in the ABA field.

M.A.B.A. Degree Requirements (GSAPP)

Scholastic Standing

Scholastic Standing

A student may be considered for dismissal from the program for any of the following reasons:

- Receiving two grades of C, Incomplete (not remediated), or No Credit (NC)

- Consistent failure to meet practitioner requirements, as documented by faculty or supervisor evaluations

- Inability to complete the Capstone Project or Thesis

M.A.B.A. Degree Requirements (GSAPP)

Capstone Project or Thesis

Capstone Project or Thesis

Students may choose to complete either a Capstone Project or a Thesis:

Capstone Project:

This option includes a curriculum review and submission of a clinical portfolio. The curriculum review prepares students for the BCBA exam, culminating in a practice exam. The clinical portfolio highlights students' clinical accomplishments throughout the program.

Thesis:

This is an original research project conducted under faculty mentorship. Students will develop a research question, submit a proposal for approval, conduct the study, write a manuscript, and defend their thesis. The project should be of a quality suitable for presentation at a national conference and ideally for publication in a peer-reviewed journal.

M.A.B.A. Degree Requirements (GSAPP)

Professional Practicum

Professional Practicum

All M.A.B.A. students must complete a 450-hour professional practicum. Practica are field-based training experiences conducted at either internal GSAPP placements or approved external sites, under the supervision of qualified practitioners. These experiences are tailored to each student's training level, completed coursework, and site-specific opportunities.

The primary goal of the practicum is to bridge academic learning with real-world application. Students gain hands-on experience applying classroom concepts and benefit from direct mentorship by experienced professionals.

M.A.B.A. Degree Requirements (GSAPP)

Student Handbook

Student Handbook

The ***Student Handbook of Policies and Procedures*** for the Graduate School of Applied and Professional Psychology is available online. It contains detailed information on coursework, internship and practicum procedures, university regulations, and degree requirements.

M.A.P. Degree Requirements (GSAPP)

M.A.P. DEGREE REQUIREMENTS

Students enrolled in our program will earn a 42-credit Master of Applied Psychology (M.A.P.) degree, designed to provide a strong foundation in the scientific principles of psychology, along with specialized training in applied psychological practices. The curriculum reflects the mission of our school by emphasizing civic and global responsibility, social justice, and cultural diversity. This comprehensive course of study equips students with the knowledge to understand both individual and group behavior. It also develops their ability to apply quantitative and qualitative research methods to examine the physical and environmental factors influencing human behavior. Additionally, students will gain an introductory understanding of behavioral assessment and intervention strategies for psychological disorders while completing a full academic year practicum.

The M.A.P. program prepares graduates with the theoretical knowledge, critical thinking, and problem-solving skills necessary for success in both professional and academic settings. Students will have opportunities to engage in scholarly activities that enhance their competitiveness for doctoral-level programs in psychology and related fields, as well as for careers aligned with a master's-level education in applied psychology.

Overall, students will build a solid foundation in psychological theory, complemented by experiential learning through research or practicum experiences. This integrated approach supports both personal growth and professional development in the diverse fields of applied psychology.

M.A.P. Degree Requirements (GSAPP)

4+1 Bachelor of Arts/Master of Applied Psychology (M.A.P.) Program

4+1 Bachelor of Arts/Master of Applied Psychology (M.A.P.) Program

The 4+1 bachelor of arts/master of applied psychology (B.A./M.A.P.) program allows undergraduate students to take a minimum of 6 graduate credits during their senior year of undergraduate studies. Students interested in pursuing an advanced career in psychology or obtaining a doctorate in psychology in the future can apply to the program during their junior year, and can obtain their bachelor's and master's degrees in five years total.

The B.A./M.A.P. program will allow students to

1. accelerate their training through advanced standing;

2. receive graduate-level training with options for specialization in certificate programs such as Certified Alcohol and Drug Counselor (CADC) and eligibility to pursue the licensure level known as the Licensed Alcohol and Drug Counselor (LADC) and Applied Behavior Analysis (BACA);
3. receive curricular instruction, practicum, and applied research experience needed to be prepared for competitive admission criteria for doctoral level studies; and
4. reduce the cost of their graduate education.

M.A.P. Degree Requirements (GSAPP)

Transfer of Credit and Residence Requirements for Advanced Students

Transfer of Credit and Residence Requirements for Advanced Students

Graduate courses completed at other institutions, if they would normally form a part of the student's field of concentration, may be accepted for credit toward the doctorate and master's degrees. Transfer of credit cannot be granted until the student has completed at least one full semester of coursework at the Graduate School of Applied and Professional Psychology with satisfactory grades. The responsibility for requesting transfer of credit lies with the student, in consultation with his or her adviser. Research, independent study, internship, practicum, or courses with a grade lower than B are not transferable. A maximum of 9 graduate credits may be transferred.

M.A.P. Degree Requirements (GSAPP)

Scholastic Standing

Scholastic Standing

The faculty may consider a student for possible termination from the school for any of the following: two grades of C, Incomplete (which have not been remediated to completion), or No Credit (NC); consistent inability to meet practitioner requirements as evidenced by faculty or supervisors' evaluations; or inability to complete the Capstone Project.

M.A.P. Degree Requirements (GSAPP)

Time Limits

Time Limits

A student who has earned a bachelor's degree prior to enrollment in the professional school must complete all the requirements of the program within two years of matriculating as a Graduate School of Applied and Professional Psychology (GSAPP) student. A student admitted to the master's program at the bachelor's degree level must complete all requirements of the program within two years of the first registration as a GSAPP student. Extensions may be granted by the department faculty only under extraordinary conditions as detailed in the policy statement printed in the ***Student Handbook of Policies and Procedures***. An approved leave of absence does not extend the time limitations for the degree.

M.A.P. Degree Requirements (GSAPP)

Capstone Project

Capstone Project

The Capstone Project involves both an electronic portfolio submission and time article analysis. The electronic portfolio is an opportunity for master's students in the applied psychology program to highlight their accomplishments over the course of their studies. Graduate students compile items from their studies illustrating successful completion of the master of applied psychology degree program. Examples of items include the curriculum vitae (CV), work samples, advanced certification trainings, and other files that pertain to the field of applied psychology outlined by a program rubric. Students also complete a timed article analysis to demonstrate competency in evaluating peer reviewed psychology articles. Students have the opportunity to complete an honors capstone project as an elective, in which students engage in research design, data collection, and the synthesis of findings, culminating in a research paper and/or a poster presentation.

M.A.P. Degree Requirements (GSAPP)

Student Handbook

Student Handbook

The ***Student Handbook of Policies and Procedures*** for the Graduate School of Applied and Professional Psychology is available online. This handbook details information on course-related matters, internship and practicum procedures, university regulations, and departmental and degree requirements.

M.A.P. Degree Requirements (GSAPP)

Professional Practicum

Professional Practicum

All MAP students complete a 450 hour professional practicum. Practica are defined as field-based training experiences, conducted either through internal placements at GSAPP or external sites, under the close supervision of qualified practitioner supervisors. These experiences are tailored to each student's level of training, completed coursework, and the opportunities available at the practicum site. The primary goal of practica is to bridge academic learning with real-world application. Students gain hands-on experience by applying concepts and skills learned in the classroom, while also benefiting from direct mentorship by experienced field professionals.

M.T.S.S. Degree & Certificate Requirements (GSAPP)

M.T.S.S. DEGREE & CERTIFICATE REQUIREMENTS

To successfully complete the MAP-MTSS program, students must earn a minimum grade of B or higher in all required coursework. The program consists of three foundational courses and five elective courses, totaling 24 graduate credits. Upon completion of these courses, students will engage in a 6-credit applied Capstone Project, which serves as an opportunity to synthesize and apply the knowledge and skills acquired throughout the program.

MAP-MTSS Capstone Project

MAP-MTSS Capstone Project

The MAP-MTSS Capstone Project serves as a culminating experience that demonstrates a student's mastery of knowledge, skills, and competencies developed throughout the program. The project includes both written and applied components and is designed to reflect each student's ability to analyze, assess, and contribute meaningfully to MTSS implementation in educational settings.

The Capstone is completed across two semesters and consists of four sequential phases:

1. Problem Identification and Literature Review
2. MTSS Framework Assessment
3. Program Proposal Development
4. Final Capstone Submission and Presentation

Each phase builds upon the last, resulting in a comprehensive and practice-oriented project that prepares students for advanced roles in MTSS leadership and consultation.New subpage content

MTSS Certificate Completion Requirements

MTSS Certificate Completion Requirements

To earn the MTSS Certificate, students must successfully complete six required courses, totaling 18 graduate credits. A minimum grade of B or higher is required in each course to demonstrate satisfactory academic performance and meet program standards.

Grading Policy

Grading Policy

Students enrolled in the MTSS program are required to earn a grade of B or higher in all courses and must maintain a minimum cumulative GPA of 3.0 throughout the program. Students who do not meet these academic standards will be subject to academic remediation, which may include the development of a formal improvement plan in consultation with faculty advisors.

The grading scale for MTSS courses:

A	Outstanding
B+	Intermediate grade
B	Good
C	Grades of C do not count towards graduation or certification
F	Failing
INC	Incomplete

Incomplete Grades: Students are expected to complete all course requirements within the designated timeframe outlined in each syllabus. Incomplete grades are generally discouraged and are only considered under exceptional circumstances. To be eligible for an incomplete, students must have completed at least 75% of the coursework. Requests for an incomplete will only be considered in cases of significant health-related or personal emergencies, and students must formally request an extension with appropriate documentation.

M.T.S.S. Degree & Certificate Requirements (GSAPP)

Academic Standing: Warnings, Probation, and Dismissal

Academic Standing: Warnings, Probation, and Dismissal

Students who earn a grade of C or lower in a required course will receive a written notice and must retake the course, earning a minimum grade of B. Accumulating two or more grades of C or below may result in placement on academic probation. In such cases, the student will be required to follow a formal academic improvement plan. Continued academic difficulties may result in suspension or dismissal from the program.

M.T.S.S. Degree & Certificate Requirements (GSAPP)

MTSS Advising

MTSS Advising

Upon entry into the program, each student is assigned a faculty advisor. Students are expected to meet with their advisor every semester to discuss academic progress and professional development. In addition, faculty hold regular office hours each semester and students are encouraged to take advantage of this time for additional support and guidance.

Organizational Psychology Degree Requirements (GSAPP)

ORGANIZATIONAL PSYCHOLOGY DEGREE REQUIREMENTS

The practice of organizational psychology (OP) consists of intervening with organizations to achieve one or more of the following objectives: (1) raise performance, (2) improve processes and relationships, (3) enhance fairness and equity, and (4) increase overall well-being. Organizational psychologists work within the context of organizations, although interventions may focus on individuals, pairs of individuals, groups, combinations of groups, or whole organizations. Methods of intervention derive from explicit psychological concepts and theories appropriate to the objectives and entities engaged in change processes. When fully utilized, the practice of organizational psychology begins with assessment or diagnosis, proceeds to design and implementation of intervention(s), and concludes with evaluation of the efforts to bring about change. Organizational psychology is practiced with service-delivering and product-generating organizations from the public, private, for-profit, and not-for-profit sectors of society. The curriculum provides training in general graduate applied psychology, core organizational psychology, and then advanced and experiential organizational psychology.

Students enrolled in the OP PsyD program must earn 72 credits and students enrolled in the OP PsyM program must earn 42 credits. The OP programs bridge science and application, equipping graduates with competencies that traverse professional, organizational, and national cultural boundaries by emphasizing theory to guide practice and practice to guide theory, always with the focus on creating and promoting a human-centered high-performance workforce and healthy organizations. The curriculum meets guidelines presented by Society for Industrial and Organizational Psychology and European Network of Organizational Psychologists Reference Model, and draws on essential competencies identified in Organizational Development Network. Students earning a PsyM in OP are ready for the practitioner workforce and earning a PsyD in OP supports students wishing to advance their studies and also contribute to teaching and research. PsyM students develop foundational skills in quantitative and qualitative research methods and statistics, whereas PsyD students continue toward advanced statistics and research design.

Transfer of Credit and Residence Requirements for Advanced Students

Transfer of Credit and Residence Requirements for Advanced Students

Graduate courses completed at other institutions, if they would normally form a part of the student's field of concentration, may be accepted for credit toward the doctorate and master's degrees with approval of the OP program director. Transfer of credit *may not* be granted until the student has completed at least one full semester of

coursework at the Graduate School of Applied and Professional Psychology with satisfactory grades (B or better). Only coursework taken within the last seven years *may* be eligible for transfer. The responsibility for requesting transfer of credit lies with the student, in consultation with his, her, or their adviser. Courses with a grade lower than B are not transferable. Independent study (including research), internship, and practicum are not transferrable. Students wishing to complete only a PsyM degree in the OP program may be eligible to transfer up to 12 graduate credits. A maximum of 30 graduate credits may be transferred toward the PsyD. Students transferring more than 12 graduate credits from a program other than GSAPP's OP program, while working toward the PsyD, *may* ***not*** also earn a PsyM in OP from Rutgers. Students earning a PsyM in OP at Rutgers may transfer all credits (with grades of B or better) toward the PsyD, as long as all the coursework was completed within the last seven years and no more than 12 credits applied to the PsyM were brought in from external institutions. A request to transfer credits is evaluated and approval granted by the program director. A transfer request may be denied even if endorsed by a faculty member.

Organizational Psychology Degree Requirements (GSAPP)

Academic Standing

Academic Standing

The faculty may consider a student for possible termination from the program for any of the following: two grades of C or lower, Incomplete (which have not been remediated to completion), or No Credit (NC); consistent inability to meet academic requirements as evidenced by faculty or supervisors' evaluations; or, for PsyD students, inability to pass the Comprehensive exam, dissertation proposal, or dissertation defense. Students may also be dismissed for unprofessional behavior after one verbal and two written warnings. Students must comply with Rutgers policies on academic integrity. Violation of such rules are grounds for dismissal. Faculty may fail a student from a course for violation of academic integrity.

Organizational Psychology Degree Requirements (GSAPP)

Time Limits

Time Limits

Students admitted into the OP PsyM program have six (6) years to complete it from the time of matriculation into the OP PsyM degree program as a Graduate School of Applied and Professional Psychology (GSAPP) student. Students admitted into the OP PsyD program have eight (8) years to complete their OP PsyD from the time they matriculate into the OP PsyD degree program as a GSAPP student. [*Note*. Students entering the PsyD program with a Master's degree have seven (7) years to complete the PsyD. Students admitted into the PsyD program who take six years to complete the PsyM in OP have only two years remaining to complete the PsyD.] Extensions may be granted by the program faculty only under extraordinary conditions as detailed in the policy statement printed in the ***Student Handbook of Policies and Procedures***. An approved leave of absence does not extend the time limitations for the degree.

Organizational Psychology Degree Requirements (GSAPP)

Experiential Learning

Experiential Learning

The OP program offers two experiential learning pathways in addition to experiential learning activities in the environment of an organized course. These pathways include individual studies and internship. Individual studies may include independent study, structured study, or independent research. Internship consists of a clearly defined experience in which a student has responsibility over a project from its inception through to completion. An internship is roughly 10-12 hours per week for 15 weeks (total of about 180 hours per semester). All students must complete an individual studies form with their advisor or faculty supervisor, and, if interning, the individual studies form must be agreed upon and signed by the internship site supervisor.

Organizational Psychology Degree Requirements (GSAPP)

Comprehensive Examination

Comprehensive Examination

At the end of an OP doctoral student's second year (assuming full-time course of studies for two years), the student will be required to complete a comprehensive exam. Only upon passing the comprehensive exam will the student be eligible to begin the dissertation proposal. Comprehensive examination will be administered in the summer before the student's third year (assuming the student is full-time).

Organizational Psychology Degree Requirements (GSAPP)

Dissertation

Dissertation

Students in the PsyD program will prepare a dissertation under the supervision of an OP faculty member and a second reader from GSAPP. A second reader who is not from GSAPP may be considered with approval by the majority of OP faculty.

Organizational Psychology Degree Requirements (GSAPP)

Additional Program Requirements

Additional Program Requirements

All OP graduate students (PsyM and PsyD) must attend in-person all new student orientation(s) their first year and all low residency programs (each year). Students are responsible for covering their costs associated with travel, food, and lodging. Failure to participate in low residency may result in dismissal from the program. Low residency is typically held just before or just after spring break.

Organizational Psychology Degree Requirements (GSAPP)

Student Handbook

Student Handbook

The ***Student Handbook of Policies and Procedures*** for the Graduate School of Applied and Professional Psychology is available online. This handbook details information on course-related matters, internship procedures, university regulations, and departmental and degree requirements.

Course Requirements

Course Requirements

Students must complete at least 72 credits following the OP curriculum.

General Psychology:

1. Biological Bases of Behavior (3 credits)

Core OP courses (30 credits) include (3 credits each):

1. Organizational Psychology: Science & Practice
2. Introduction to Personnel and Work Psychology
3. Introduction to Organization Development
4. Cross-Cultural Organizational Psychology
5. Occupational Stress & Health Psychology
6. Ethics in OP/OD Research & Consulting
7. Organizational Diagnosis & Cultural Dynamics
8. (Applied) Systems Theory & Analysis
9. Research Methods & Statistics I
10. Foundations of Qualitative Research for the OP

Distributed courses (12 credits) covering selections from:

1. Area 1: Industrial, Work, and Organizational Psychology (two 3-credit courses)

and

2. Area 2: OP/OD Practice (two 3-credit courses)

Advanced and Experiential Organizational Psychology courses (18 credits):

1. Research Methods & Statistics II (3 credits)
2. Research Methods & Statistics III (3 credits)
3. Experiential Learning (internship, independent research) (3 to 9 credits)
4. Dissertation (9 to 15 credits)

Electives (three 3-credit courses for a total of 9 credits)

Students may request (from the program director) approval to take up to nine credits of graduate courses outside of the Organizational Psychology program. There is no automatic guarantee that approval will be granted.

Admission (GSAPP)

ADMISSION

Clinical Psy.D. Admission Procedures

School Psy.D. Admission Procedures

Psy.D. Admission Procedures

M.A.P. Admission Procedures

M.A.B.A. Admission Requirements

M.T.S.S. Admission Requirements

O.P. Admission Requirements

General Qualifications for Admission

Special Students

Financial Offers and Acceptance Decisions

Clinical Psy.D. Admission Procedures (GSAPP)

CLINICAL PSY.D. ADMISSION PROCEDURES

You may only apply online. Applicants applying to the Clinical Psychology PsyD Program should not apply to any other doctoral programs at GSAPP.

Applicants are restricted from applying to more than one (1) doctoral psychology program in New Brunswick each term. Applying to more than one program may significantly delay your application

The Clinical PsyD & School PsyD Programs share a common deadline of **December 1, 2025** for admissions entering Fall 2026. All application materials should be submitted on or before the December 1st deadline.

For Admission:	Application Deadline:
Sept. 2026	Dec. 1, 2025
Sept. 2027	Dec. 1. 2026

Application fee: Currently $70.00. Payment can be made by mailing in a check or online with credit card.

- Official transcripts from each undergraduate and graduate institution attended **can be sent electronically or mailed in a sealed envelope.**
    - **If sending electronically, please send them to: e-transcripts@gradadm.rutgers.edu (recommended)**
    - ***Because of back-logged university offices, applicants are advised to upload unofficial transcripts with their applications. However, it is expected official transcripts will be sent, as well.***
- "3" Completed Letters of Recommendation **must be sent electronically.**

- Please submit a personal statement describing your experiences related to, and your commitment to, pursuing a career in professional psychology and a doctoral degree.
    - Page length: 1.5-2 pages approximately 750 - 1000 words. **Must be sent electronically**.
      In addition to the personal statement the Clinical program also requires a brief essay (300-500 words) describing how your life and/or professional experiences and aspirations relate specifically to GSAPP's mission

- **Clinical PsyD Program requires that GRE psychology subject test**
- Test of English as a Foreign Language (TOEFL) is also required of all foreign applicants whose native language is not English. The TOEFL requirement may be waived for applicants who can present sufficiently compelling evidence of their abilities in English
- Request Official Transcripts using Parchment, eScrp-Safe, or National Student Clearinghouse. Chinese Institutions will need to use CHESICC.
- If an applicant has an international transcript, they must have a third-party transcript evaluation service complete an evaluation into US.
- Resume **Must be sent electronically**.
- Indicate the program to which you are applying.
- **Note: You can check your application for materials received (transcripts, letters). Log into the portal and go to supporting materials, you will be able to view what materials have been received and what are still pending.**

NOTE: Admission application materials should be sent directly to:

Offices of Graduate and Professional Admissions
Rutgers, The State University of New Jersey
ASB I
65 Davidson Road
Piscataway, NJ 08854

School Psy.D. Admission Procedures (GSAPP)

School PSY.D. ADMISSION PROCEDURES

You may only apply online . Applicants applying to the School Psychology PsyD Program should not apply to any other doctoral programs at GSAPP.

Applicants are restricted from applying to more than one (1) doctoral psychology program in New Brunswick each term. Applying to more than one program may significantly delay your application

The Clinical PsyD & School PsyD Programs share a common deadline of **December 1, 2025** for admissions entering Fall 2026. All application materials should be submitted on or before the December 1st deadline.

For Admission:	Application Deadline:
Sept. 2026	Dec. 1, 2025
Sept. 2027	Dec. 1. 2026

Application fee: Currently $70.00. Payment can be made by mailing in a check or online with credit card.

- Official transcripts from each undergraduate and graduate institution attended **can be sent electronically or mailed in a sealed envelope.**
    - **If sending electronically, please send them to: e-transcripts@gradadm.rutgers.edu (recommended)**
    - ***Because of back-logged university offices, applicants are advised to upload unofficial transcripts with their applications. However, it is expected official transcripts will be sent, as well.***
- "3" Completed Letters of Recommendation **must be sent electronically.**
- Please submit a personal statement describing your experiences related to, and your commitment to, pursuing a career in professional psychology and a doctoral degree.
    - Page length: 1.5-2 pages approximately 750 - 1000 words. **Must be sent electronically**.
- Test of English as a Foreign Language (TOEFL) is also required of all foreign applicants whose native language is not English. The TOEFL requirement may be waived for applicants who can present sufficiently compelling evidence of their abilities in English
- Request Official Transcripts using Parchment, eScrp-Safe, or National Student Clearinghouse. Chinese Institutions will need to use CHESICC.
- If an applicant has an international transcript, they must have a third-party transcript evaluation service complete an evaluation into US.
- Resume **Must be sent electronically**.
- Indicate the program to which you are applying.
- **Note: You can check your application for materials received (transcripts, letters). Log into the portal and go to supporting materials, you will be able to view what materials have been received and what are still pending.**

NOTE: Admission application materials should be sent directly to:

Offices of Graduate and Professional Admissions
Rutgers, The State University of New Jersey
ASB I
65 Davidson Road
Piscataway, NJ 08854

M.A.P. Admission Procedures (GSAPP)

M.A.P. ADMISSION PROCEDURES

To be considered for admission to the M.A.P. program, applicants must meet the following requirements:

Minimum GPA: 3.0 in undergraduate or associate degree coursework

Letters of Recommendation: Two letters from individuals familiar with the applicant's academic or professional qualifications

Professional Statement: A statement outlining the applicant's goals, interests, and reasons for pursuing the program

Prerequisites: General Psychology, Statistics, one additional Psychology elective

M.A.B.A. Admission Requirements (GSAPP)

M.A.B.A. ADMISSION REQUIREMENTS

- Minimum 3.0 GPA in undergraduate or associate degree transcripts.
- Two letters of recommendation.
- A professional statement.
- Transcripts from all previously attended schools.
- Previous courses or work experience in applied behavior analysis.

MTSS Admission Requirements and Procedures (GSAPP)

MTSS Admission Requirements:

Master of Applied Psychology-MTSS Option:

1. Bachelor's degree (or advanced undergraduate), or higher degree in education, psychology, or related field
2. Undergraduate transcripts, demonstrating 3.0+ GPA; attach graduate transcripts if available
3. Personal Statement
4. Two letters of recommendation

MTSS Certificate:

1. Bachelor's degree (or advanced undergraduate), or higher degree in education, psychology, or related field
2. Undergraduate and graduate transcripts
3. Brief Statement of Interest

MTSS Admission Procedures:

Students must complete an online application and pay a $70.00 application fee. Applications are accepted on a rolling basis, and students may apply for Fall or Spring admissions. Although applications are accepted on a rolling basis, the following application submission dates are recommended.

For Admission:	Application Deadline:
Spring 2026	January 1, 2026
Fall 2026	August 15, 2026
Spring 2027	January 1, 2027
Fall 2027	August 15, 2027
Spring 2028	January 1, 2028

NOTE: Both programs require access to reliable internet

O.P. Admission Requirements (GSAPP)

O.P. ADMISSION REQUIREMENTS

- **O.P. ADMISSION REQUIREMENTS**
    - A completed application
    - Two letters of recommendation
    - CV/ Résumé
    - Transcripts of all undergraduate and/or graduate coursework
    - Personal Statement (1,000 words)*

  *As you prepare your personal statement, consider including the following:
    - Who you are?
    - Why you want to join this OP graduate program?
    - What you aspire to do when you graduate or how you intend or hope to contribute to the field.
    - Research you might have engaged in or have an interest in pursuing (it's okay not to write about this if you do not know).

  ** For students with international credentials, a professional credential evaluation by an outside credential evaluation service may be requested.

General Qualifications for Admission (GSAPP)

GENERAL QUALIFICATIONS FOR ADMISSION

An application to any one program implies a commitment to that particular program. Applicants can only apply to one of the programs at the Graduate School of Applied and Professional Psychology, or the Ph.D. program at the School of Graduate Studies. A person wishing to transfer from one program to another must go through the regular admissions procedure, **except for OP students, who may be admitted to the Psy.M. program.**

General Qualifications for Admission (GSAPP)

Psy.D. Student Selection

Psy.D. Student Selection

Consideration for admission to the doctor of psychology (Psy.D.) programs requires a bachelor's or master's degree, preferably with a major in psychology; an excellent scholastic average; favorable recommendations from at least two faculty persons or supervisors (for OP applicants), and three (for Clinical and School applicants) who know the academic and personal qualifications of the applicant; and appropriate statements from the applicant on the application form. Requests for admission interviews are too numerous to honor. However, the admissions committee may invite applicants for an interview after the initial screening of written applications. Efforts are made to send notifications of decisions to all applicants by March.

Students entering the programs at the Graduate School of Applied and Professional Psychology need not have majored in psychology. However, they are generally expected to have taken the main courses for an undergraduate major in the field. Prior to entering the program, students must have taken courses covering the following areas: introductory psychology; statistics; abnormal psychology; and the biological bases of psychology. Students also should have taken at least one and preferably two courses in the following areas: cognitive psychology; psychology of perception, conditioning, and learning; developmental psychology; psychology of personality; and social psychology. We prefer that one of the above listed courses have a laboratory component. All programs welcome applications from Rutgers students who are properly prepared with good academic records and references.

Special Students (GSAPP)

SPECIAL STUDENTS

Courses at the Graduate School of Applied and Professional Psychology (GSAPP) are generally available only to matriculated GSAPP students or alumni and clinical Ph.D. students enrolled in the School of Graduate Studies. However, certain courses may be taken by qualified students matriculated in programs in social work, education, or other nonclinical areas of mental health, depending upon their background and instructors' permission. Professional staff members or psychology interns at Robert Wood Johnson Medical School who meet prerequisite requirements may be able to register for theoretical courses, as defined by the GSAPP Faculty Council. A nonmatriculated student may take a maximum of three GSAPP courses with instructors' permission.

All such individuals must contact the academic dean for further information before registering for a GSAPP course.

GSAPP endorses the American Psychological Association (APA) policy regarding training of psychologists who wish to change their specialty:

"Psychologists seeking to change their specialty should take training in a program of the highest quality, and where appropriate, exemplified by the doctoral training programs and internships accredited by the APA.

"With respect to subject matter and professional skills, psychologists taking such training must meet all requirements of doctoral training in the new psychological specialty, being given due credit for relevant coursework or requirements they have previously satisfied.
"It must be stressed, however, that merely taking an internship or acquiring experience in a practicum setting is not, for example, considered adequate preparation for becoming a clinical, counseling, or school psychologist when prior training has not been in the relevant area.

"Upon fulfillment of all formal requirements of such a training program, the students should be awarded a certificate--thus according them due recognition for their additional education and experience."

For the detailed school policy, see the Academic Policies and Procedures chapter.

Financial Offers and Acceptance Decisions (GSAPP)

FINANCIAL OFFERS AND ACCEPTANCE DECISIONS

An applicant may receive more than one offer of admission before April 15 and/or receive statements that he or she is listed as an alternate. To protect a candidate against premature decisions, most graduate schools allow the applicant until April 15 to make a final decision. This is in accordance with the resolution adopted by the Council of Graduate Schools and supported by 317 universities and colleges and by the directors of four granting agencies:

"Acceptance of an offer of financial aid (such as a graduate scholarship, fellowship, traineeship, or assistantship) for the next academic year by an actual or prospective graduate student completes an agreement which both student and graduate school expect to honor. In those instances in which the student accepts the offer before April 15 and subsequently desires to withdraw, the student may submit in writing a resignation of the appointment at any time through April 15. However, an acceptance given or left in force after April 15 commits the student not to accept another offer without first obtaining a written release from the institution to which a commitment has been made. Similarly, an offer by an institution after April 15 is conditional on presentation by the student of the written release from any previously accepted offer. It is further agreed by the institutions and organizations subscribing to the above Resolution that a copy of this Resolution should accompany every scholarship, fellowship, traineeship, and assistantship offer."

The Council of Graduate Departments of Psychology has modified the resolution regarding offering and accepting financial aid after April 15:

"An acceptance given or left in force after April 15 commits the student not to solicit or accept another offer. Offers made after April 15 must include the proviso that the offer is void if acceptance of a previous offer from a department accepting this resolution is in force on that date. These rules are binding on all persons acting on the behalf of the offering institution."

Financial Aid (GSAPP)

FINANCIAL AID

A majority of full-time graduate students at the university receive some financial aid. The amount of support each student receives depends, in part, upon the availability of funds. The level of support often is dependent upon the specific graduate program and the student's degree status. Aid ranges from loans to grants covering tuition charges to awards sufficient to pay all educational and most living expenses. The sources of support include university funds, federal and state government funds, corporate and individual bequests to the university, and grants from educational and scientific foundations.

All students are strongly encouraged to file an application for financial aid.

For more information about all sources of aid and applicable deadlines, visit the Scarlet Hub online.

Restrictions on Financial Aid, Multiple Offers, and Employment

Graduate students ordinarily may not accept two different financial awards from the university simultaneously. Students who have applied for two different awards and are offered both should inquire at the dean's office of the school of matriculation before acceptance. Students who hold fellowships, assistantships, internships, or Russell Scholarships may not accept employment outside of their academic department without the permission of the graduate director and the Graduate School of Applied and Professional Psychology Dean.

Graduate students who have received aid administered by the Office of Financial Aid must report to that office any change in income, such as scholarships, loans, gifts, assistantships, or other employment received subsequent to the original aid award.

Academic Policies and Procedures (GSAPP)

ACADEMIC POLICIES AND PROCEDURES

Note: See the **University Policies and Procedures** section in the Rutgers Main catalog for university-wide academic policies and procedures.

Graduate Student Mailing Access

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Graduate Student Mailing Access (GSAPP)

GRADUATE STUDENT MAILING ACCESS

Official communications among faculty, students, and staff are delivered by campus mail to the mailboxes available to each faculty member and student. Certain official communications are mailed to the student's home address by the U.S. Postal Service. It is the student's responsibility to keep the registrar and the program coordinator informed of a current mailing address.

Registration and Course Information (GSAPP)

REGISTRATION AND COURSE INFORMATION

Registration and Course Information (GSAPP)

General Procedures

General Procedures

Formal admission to the Graduate School of Applied and Professional Psychology and payment of all charges to the cashier are prerequisites for registration. Once enrolled, students are expected to remain registered in every fall and spring semester thereafter until completing the program and earning their degree.

A student's registration is activated through the proper submission of a term bill, accompanied by payment, or through an appropriate claim of financial aid. Activation of registration does not occur if there are "holds" placed on a student's records because of failure to meet outstanding obligations.

Registration and Course Information (GSAPP)

Continuous Registration

Continuous Registration

All matriculated students must be in continuous registration for every fall and spring semester. Students satisfy this requirement by registering for such coursework or dissertation study as may be required according to their program proposals.

Leaves of absence are not ordinarily granted. If such a leave becomes necessary, the student must submit a written request detailing reasons to their adviser and department chair. Such an approved leave, however, does not extend the time limitations for the degree. See the "Time Limits" section of this document for more information.

Registration and Course Information (GSAPP)

Matriculation Continued

Matriculation Continued

Students may only register for 0 credits of Matriculation Continued if they make a request in writing and have received written approval from the program director for a leave of absence for a specified time period. Copies of such correspondence should be placed in the student's files in the administrative assistant office. Such leave does not extend the university-imposed time limitations for completing the degreee.

Students who are obliged to interrupt their studies may, with the approval of their departmental chair, register for matriculation continued (leave of absence). There is no tuition fee for this registration although a small fee is charged. This category of registration is available only to students not present on campus and not using faculty time or university research facilities. Those students who are away from campus but working on their dissertations and in contact with their committees register for a minimum of 3 credits per semester, either for work on their dissertation or for internship credits. Students are permitted to register for 1 credit for their dissertation work in any one semester, in lieu of the 3-credit requirement.

Registration and Course Information (GSAPP)

Summer Registration

Summer Registration

The requirement to remain in continuous registration from the time admitted until the degree is earned applies only to the regular academic years (fall and spring semesters), not to the Summer Sessions. However, some required courses may be offered during the Summer Sessions only, therefore students may be expected to complete required courses during the Summer Sessions. Summer Session registration information is sent to each student with the fall semester registration instructions. Summer Session course information is available online after March 10, or a printed brochure may be obtained in the Office of Summer and Winter Sessions-New Brunswick, Rutgers, The State University of New Jersey, 191 College Avenue, New Brunswick, NJ 08901-8546.

Registration and Course Information (GSAPP)

Late Registration

Late Registration

Students who do not complete registration during the period prescribed in the registration instructions may do so during the late registration period. A late registration fee is charged.

Registration and Course Information (GSAPP)

Change of Courses and Withdrawal

Change of Courses and Withdrawal

Change of Courses:

Changes in registration for courses should follow the graduation schedule for Rutgers University-New Brunswick. Please navigate carefully to be sure the dates you are reviewing are for graduate students.

Withdrawal from the University:

It is recommended that the student discuss their intention to withdrawal with their advisor and review the financial implications of withdrawal. Students wishing to cancel their registration, withdrawal from all of their courses, or take a leave of absence from the university, must follow the University Withdrawal Process to submit an official online withdrawal form.

Registration and Course Information (GSAPP)

Full- and Part-Time Students

Full- and Part-Time Students

A full-time student is defined as one who is enrolled for 9 or more credits; a part-time student is one who registers for less than 9 credits. All courses, including practicum placements and audited courses taken "not for credit," are totaled in determining a student's status. A full-time program averages 12 to 15 credits per semester. The maximum program is normally 19.5 credits, although under some circumstances, additional credits may be permitted with the approval of the academic advisor, program director, and academic dean.

Registration and Course Information (GSAPP)

Accessibility to Fall and Spring GSAPP Courses

Accessibility to Fall and Spring GSAPP Courses

A limited number of matriculated doctoral students in nonclinical areas of psychology; master's or doctoral level students from the Graduate School of Education or the School of Social Work; or psychology interns from the Robert Wood Johnson Medical School (RWJMS) may be able to register for theoretical courses, as defined by the Graduate School of Applied and Professional Psychology (GSAPP) Faculty Council, by means of intercollege registration, provided that (1) they meet admissions standards and prerequisites, (2) there is room in the course as approved by the academic dean, and (3) they have the permission of the course instructor.

Meeting these same requirements, RWJMS staff not enrolled in a doctoral program may request permission to officially audit GSAPP courses.

Nontheoretical courses are available only to students matriculated in GSAPP. This policy recognizes the school's integrated and coordinated program of courses and its mission to train mental health professionals, as well as the extraordinary number of applicants who wish access to these programs.

Requests for rare exceptions to this policy must be documented in writing by the student to the academic dean, who consults with the course instructor and the program director.

A maximum of three courses in GSAPP may be taken by graduate students who are not matriculated in GSAPP.

Registration and Course Information (GSAPP)

Time Limits

If a student does not complete the program within the stipulated limits, he or she will be terminated unless their faculty grants a written extension with a specific date and/or timetable for completing the program.

- A student admitted to the doctoral program at the bachelor's degree level must complete all requirements of the program within eight years of first registration as a degree student in GSAPP.
- A student who has been accepted at an advanced level (a Master's degree in clinical psychology for the clinical program or a school psychology certification prior to enrollment in the school program) must complete all requirements of the program within seven years of the first registration in GSAPP.

- An approved leave of absence does not extend the time limitations.
- The Department Chair may grant an extension of time for completion of the degree under the following conditions:
    1. The student shall have completed all requirements except the dissertation or internship.
    2. The student must request an extension in writing, including written evidence of progress on the dissertation or internship, setting forth a realistic timetable for their completion.
    3. The student may have to appear at a hearing of a Departmental Committee, whose members are designated by the Department Chair, appointed to consider whether to grant approval of the extension.
    4. The department may choose to place additional requirements on the student as a condition for granting the extension since the student has not fulfilled the time limits as contracted in the Program Proposal. Additional requirements can include interim submission of material (e.g., submitting dissertation material in writing every three months) or other requirements to demonstrate satisfactory completion of the program.
    5. Given these four conditions, an extension shall be granted only under extraordinary conditions and at the recommendation of the dissertation committee.

Class Schedules and Hours (GSAPP)

CLASS SCHEDULES AND HOURS

Starting and closing dates for each semester and scheduled holidays can be found in the academic calendar. Students are expected to be present at each meeting of their classes.

Class Schedules and Hours (GSAPP)

Absence Due to Religious Observance

Absence Due to Religious Observance

It is the policy of the university to excuse without penalty students who are absent because of religious observances and to allow the makeup of work missed because of such absence. Examinations and special required out-of-class activities ordinarily are not scheduled on those days when such students refrain from participating in secular activities. Absences for reasons of religious obligation are not counted for purposes of reporting.

Class Schedules and Hours (GSAPP)

Cancellation of Classes

Cancellation of Classes

The President of the university or a designated official is authorized to cancel classes at the university or any of its parts in the event that weather conditions so dictate. During severe weather conditions, announcements will be

made over local radio stations and the principal broadcasting stations in New York and Philadelphia. Cancellations and information regarding delayed openings and closings will be made available at the Rutgers University-New Brunswick campus Operating Status page.

Grades and Records (GSAPP)

GRADES AND RECORDS

GSAPP follows the Rutgers University-New Brunswick grading scale.

Grades and Records (GSAPP)

Credit Prefixes

Credit Prefixes

The number of credits appearing on course records and registration cards may be preceded by a letter prefix as follows:

E Only clinical students are given E credits for their work as full-time teaching, graduate, or research assistantships. These E credits are listed on your official transcript but *are not* counted *into* the total number of *regular* credits for which you are registered each semester and *are not* counted toward the number of credits needed to graduate.

N Course is audited, i.e., "not for credit." Examination is not permitted; a final grade of S (satisfactory) or U (unsatisfactory) is assigned.

Grades and Records (GSAPP)

Transcripts

Transcripts

Official Transcripts, Verifications, and Term Grade Reports

Requests for official transcripts for all current and former students will be processed through the Transcript Request Application.

Current Students: View Term Grades, Transcripts, and Class Schedules

View term grades, transcripts, and class schedules through MyRutgers.

NOTE: If you do not have a social security number, Rutgers Id or RUTGERS BIOMEDICAL AND HEALTH SCIENCES (formerly UMDNJ) ID, or you are not willing to supply it, you will not be able to request a transcript through this system.
To request a RBHS transcript, please download the Official Transcript Form, and mail it to the Registrar's office.
To request a Rutgers transcript, please download the Official Transcript Form, and mail it to the Registrar's office.

Grades and Records (GSAPP)

Student Identification Cards

Student Identification Cards

I.D. cards are needed for parking permits and use of university athletic facilities and the library.

For information go to the Institutional Planning and Operations website.

Keep your stamped tuition receipt until the I.D. cards arrive.

Grades and Records (GSAPP)

Holds

Holds

The privileges of registration, advance registration, and receipt of a diploma are barred to students having outstanding obligations to the university. Obligations may take the form of unpaid monies, unreturned or damaged books and equipment, parking fines, other charges for which a student may become legally indebted to the university, and failure to meet immunization requirements or to comply with disciplinary sanctions or administrative actions.

University departments and offices may place "holds" on registration and diplomas for any students having an outstanding obligation.

Scholastic Standing (GSAPP)

SCHOLASTIC STANDING

The rules of the Graduate School of Applied and Professional Psychology (GSAPP) governing scholastic standing--including policy statements on academic probation, dismissal, and readmission--may be found in the GSAPP *Student Handbook of Policies and Procedures.*

Each program annually monitors the academic and practitioner progress of all students. Any of the following requires the faculty to consider a student's possible termination from the school: three grades of C, Incomplete (which have not been remediated to completion), or No Credit; failure to pass the comprehensive examination; consistent inability to meet practitioner requirements as evidenced by faculty or supervisors' evaluations; or inability to carry out a dissertation.

Scholastic Standing (GSAPP)

Student Academic Appeals

Student Academic Appeals

Student Academic Appeals

Student academic appeals are handled within the structure of the graduate degree program. The student should take the issue to the director of the graduate program or a designee for review and mediation. The director, or a designee, consults with all parties and proposes a resolution. If this is unsuccessful, the matter is referred to a faculty committee. The committee may consult with whomever it chooses in arriving at a recommendation in the matter and, in extraordinary cases, may ask third parties from among the faculty to review previous decisions by the faculty involved.

While action within the faculty is normally final, a student may appeal to the dean in cases where he or she feels that the process by which the program reached its decision was unfair. The case is then reviewed by the dean or the designee of the dean, whose decision is final.

Graduation (GSAPP)

GRADUATION

Degrees are conferred by the university only after a formal application has been filed with the registrar and upon recommendation of the faculty. Diplomas are given out at the annual commencement each May; a student who completes degree requirements at any other time may request a letter for use until commencement. If you wish to receive a letter indicating the exact date of fulfillment of all academic requirements, this can be requested from the academic dean upon completion of all requirements (i.e., repayment of all outstanding debts, if any, and receipt of all complete and corrected dissertation copies). This letter will be backdated to the day of the dissertation defense, completion of your internship, or completion of other relevant final requirements.

The Graduate Diploma Application Form must be completed by the candidate and **received** by the registrar. Due dates and other information related to diplomas can be found online.

These dates are set by the university and must be followed. Unless the application is filed by the deadline, the degree will not be conferred and graduation will be delayed.

If you do not wish to attend commencement, indicate that fact on the Graduate Diploma Application. Please note the address to which the diploma may be mailed during the months of June or July. Diplomas will be withheld from a student who is under any financial obligation to the university.

Student Services (GSAPP)

STUDENT SERVICES

Student Groups at GSAPP

Graduate Student Association (GSA)

Student Groups at GSAPP (GSAPP)

STUDENT GROUPS AT GSAPP

All GSAPP students are welcome to join any of these student organizations.

Student Groups at GSAPP (GSAPP)

Asian Students' Association

Asian Students' Association (ASA)

The Asian Students' Association (ASA) promotes the social, cultural, and academic interests of Asian students at the Graduate School of Applied and Professional Psychology via a meaningful exchange of knowledge and information. Membership is extended to all Asian graduate students enrolled at the Graduate School of Applied and Professional Psychology. Members meet once a month. Events planned include both social and educational activities for those at the school as well as those in the mental health fields within the Rutgers community.

Student Groups at GSAPP (GSAPP)

Association of Neuropsychology Students and Trainees (ANST) Interest Group at Rutgers University

Association of Neuropsychology Students and Trainees (ANST) Interest Group

The Association of Neuropsychology Students & Trainees (ANST) Interest Group is open to all Rutgers students and focuses on disseminating important information about training and professional issues relevant to the field of neuropsychology. As group members, students are provided the opportunity to share and receive knowledge about clinical neuropsychology, assessment, and other brain-related topics.

Student Groups at GSAPP (GSAPP)

Black Graduate Students and Allies (BGSA)

Black Graduate Students and Allies (BGSA)

Black Graduate Students and Allies, BGSA was founded to help increase the number of Black and other diversity students at GSAPP, to enhance student life, and to provide support and community during the rigorous experience of graduate school. We are actively involved in a number of events throughout the year to achieve these goals. We have dinners and informal gatherings where we share, give support, and socialize, and we are constantly searching out new directions to cultivate our experience in graduate school.

Student Groups at GSAPP (GSAPP)

Committee on Diversity

Committee on Diversity

The GSAPP Committee on Diversity (COD) is an organization that is a faculty and student collaboration dedicated to issues of diversity, inclusion and equity in the practice of professional psychology. The COD is open to all and creates opportunities for outreach and diversity training, education, and training in multicultural psychology by fostering connections between faculty, students and alumni, especially connecting alumni of color with current GSAPP students. The COD is student-focused, committed to social justice, and creates nonjudgmental opportunities to learn and listen. The COD is an official committee of the dean¿s office at GSAPP.

Student Groups at GSAPP (GSAPP)

Hispanic Organization of Professional Psychology Students (HOPPS)

Hispanic Organization of Professional Psychology Students (HOPPS)

As an organization, the Hispanic Organization of Professional Psychology Students (HOPPS) has set forth many goals. Among its most important is to provide a supportive and nurturing environment for its members. An equally important goal is to actively assist the Graduate School of Applied and Professional Psychology (GSAPP) in recruiting qualified Hispanic students to our programs. Other goals include: educating the larger GSAPP community to the needs of the Hispanic community, sponsoring educational and social activities that celebrate Latino culture, and collaborating with other GSAPP student organizations and alumni.

Student Groups at GSAPP (GSAPP)

International Students Group (ISG)

International Students Group (ISG)

The International Students Group (ISG) was formed in 2001 in an effort to organize, support, and facilitate the integration of international students into the Graduate School of Applied and Professional Psychology (GSAPP) culture. ISG members are GSAPP students who identify themselves as international students regardless of immigration status. One of the ISG's primary purpose is to help incoming international students achieve a smooth transition into GSAPP life, as well as to guide international students in the application process and to advocate for international students needs. The group also aims to serve as a resource for GSAPP by informing about the needs and achievements of therapists and clients from foreign countries, by enhancing the dialogue with practitioners and scholars from eclectic backgrounds, and by broadening the range of learning and relational opportunities for the GSAPP community.

Student Groups at GSAPP (GSAPP)

Jewish Student Alliance (JSA)

Jewish Student Alliance (JSA)

The Jewish Student Alliance (JSA) is one of the Committee on Diversity (COD) groups at the Graduate School of Applied and Professional Psychology (GSAPP). The JSA explores and celebrates Jewish culture to add meaning and cultural education to our psychological education. Meetings are often held around Jewish holidays (Hannukah, Purim, Passover, Shavuot).

Student Groups at GSAPP (GSAPP)

Psychoanalytic Community at Rutgers (PCaR)

Psychoanalytic Community at Rutgers (PCaR)

The Psychoanalytic Community at Rutgers (PCaR) is a learning community for those with an interest in psychoanalytic and psychodynamic theories and therapies.

Student Groups at GSAPP (GSAPP)

Psychology Students for Social Action (PSA)

Psychology Students for Social Action (PSA)

As graduate students, we recognize that we hold a position of privilege. We acknowledge that with the precept "do no harm" comes an equally important impulse to work toward healthier people and healthier communities. As a student group, we recognize that education is an important piece of critical engagement and that action and advocacy are also required. We aim to be not only responsible citizens, but responsible psychologists. That practice begins as students. As students, we believe in improving access to mental health resources for students and community members and providing a forum for discourse surrounding pressing mental health issues. We provide a space for students to discuss and engage with current events and larger social issues within clinical practice. Our understanding of human psychology propels us to affirm the inherent value, dignity, and human rights of every person.

Student Groups at GSAPP (GSAPP)

Queer Student Association (QSA)

Queer Student Association (QSA)

The Queer Student Association (QSA) represents the lesbian, gay, bisexual, transgender, queer, questioning, and intersex community at GSAPP. We address issues of sexual and gender identity and practices that are relevant to clinical practice. The QSA hosts relevant viewings and discussions of movies, maintains a queer presence during GSAPP events, provides consultation to student clinicians, and organizes social activities.

Student Groups at GSAPP (GSAPP)

Student Alliance (SA)

Student Alliance (SA)

The Student Alliance is the group for all other student groups and the liaison between the GSAPP students and faculty. We meet a few times per semester and would like to support GSAPP students in any way possible! Come to SA meetings with any ideas you may have to improve our program!

Graduate Student Association (GSA) (GSAPP)

GRADUATE STUDENT ASSOCIATION (GSA)

GSAPP encourages its students to be involved in the Rutgers-New Brunswick GSA.

Course Listing (GSAPP)

COURSE LISTING

Explanation of Three-Part Course Numbers

GSAPP Courses

Explanation of Three-Part Course Numbers (GSAPP)

EXPLANATION OF THREE-PART COURSE NUMBERS

The number preceding each course title is divided into three parts. The first two digits are the administrative code (standing for the school or faculty offering the course), the next three digits are the subject code, and the final three digits specify the course code.

Administrative Codes

The administrative codes used in this chapter are:

13 Undergraduate Psychology - Graduate School of Applied and Professional Psychology (GSAPP)

16 School of Graduate Studies

18 Graduate School of Applied and Professional Psychology (GSAPP)

Subject Codes

Courses with the following subject codes are listed in this chapter:

820 Professional Psychology

821 Clinical Psychology

826 School Psychology

829 Organizational Psychology

830 Undergraduate Psychology

844 Applied Psychology

Course Codes

Courses coded from 500 to 799 are graduate courses. Usually, fall semester courses end with odd numbers and spring semester courses end with even numbers.

Two course codes separated by a comma indicate that each semester course may be taken independently of the other. Two course codes separated by a hyphen indicate that satisfactory completion of the first semester course is a prerequisite for the second semester; the first semester may be taken for credit without taking the second, except if a statement is added to indicate that both semester courses must be completed in order to receive credit.

Credits

Credits awarded for the successful completion of each course are indicated in parentheses following the course title. The notation E indicates that the course is experiential, and the credits do not count toward the total credits required to graduate. However, E credits are listed on official transcripts and counted in the total number of credits for the semester. Examples of E-credit courses include graduate assistantships, professional practicum placement (in a work setting), and psychological clinic practicum (treating clients in the GSAPP clinic under supervision).

The notation BA indicates that the number of credits is determined by arrangement with the department offering the course.

Individual course offerings may vary from year to year as circumstances dictate. The university reserves the right to cancel or modify any course or program listed herein.

Individuals who are not matriculated in any of the GSAPP Psy.D. programs or the School of Graduate Studies clinical Ph.D. program but who wish to take courses offered by GSAPP should consult the section on Accessibility to Fall and Spring GSAPP Courses in the Academic Policies and Procedures chapter.

All applications (therapy) courses require a minimum of one case with appropriate supervision.

GSAPP Courses (GSAPP)

GSAPP COURSES

Undergraduate Courses in Psychology 830

Undergraduate Courses in Psychology

13:830:300 ***Introduction to Clinical and School Psychology (3)***
This course is intended for undergraduates who are considering careers in applied areas of psychology, specifically focusing on clinical and school psychology. It will provide an overview of professional roles in both specialty areas as well as current topics in educational settings and clinical practice. We hope it will help you learn more about the field and answer questions you may have as you plan for your future. We will begin with on overview of the professional practice of clinical and of school psychology, including the history of each field, theoretical foundations, roles and functions. We will explore assessment and intervention, the research base, ethics, work with diverse populations, and admission to graduate school. Each overarching topic will be examined from the perspective of both clinical and school psychology. Students will be exposed to different models of professional practice and career paths in schools and clinical mental health settings.

13:830:399 ***Psychology of Intimate Relationships (3)***
This course does not count toward the major or minor in psychology. The course will explore the psychology of close (romantic) human relationships. Examples of topics covered are the biological bases of our need for relationship and of attraction, how relationships form and how they come apart, the value of both awareness of the self and empathy for the other in maintaining high-quality relationships, and the impact of wider social and cultural factors. This course aims to engage you both academically and personally. We will explore what the research tells us about relationships, but will be actively applying what we are learning in experiential ways. There is no factor more central to life satisfaction than the nature and quality of our closest relationships, and we can apply the knowledge base available to us to do a better job. You are likely to find that the literature contains much that may influence the way you look at relationships and at yourself.

13: 047:102 The Impact of Drugs & Alcohol on the Brain (3)
The course provides a general overview and introduction to the psychopharmacology of alcohol, and major drugs classes as well as prescription drugs commonly used in treating mental health and addiction issues. It covers basic pharmacology and neuroscience, specific to addiction counseling. Students will learn the strengths and limitations of a strictly disease-based approach to understanding addictive behaviors, and ways to integrate this information into the bio-psycho-social-spiritual approach. Students will conceptualize the role that biologically based etiological factors play in the development of addictive disorders, and how those factors serve to promote continued drug/alcohol use despite serious health consequences. The course will also examine antiracist lens, the impact of diverse identities (i.e.: age, race, gender, social class, culture, ethnicity, spirituality, religion, sexual orientation, national origin, and physical and mental ability on biologically based issues related to addictive and co-occurring disorders.

GSAPP Courses (GSAPP)

Professional Psychology 820

Professional Psychology 820

18:820:503 ***Theoretical Foundations: Analytical (2)***
The model of human functioning offered by psychoanalytic/psychodynamic theory, with a focus on understanding the person in the context of their development. A goal for the class is for students to obtain "psychoanalytic literacy,"

familiarity with terms and concepts from this tradition that the students will encounter in a variety of contexts throughout their careers. Topics include: the unconscious, play and dreams, defense mechanisms, psychodynamic understandings of personality, theories of group dynamics and bullying, the integration of attachment theory into modern psychoanalytic psychotherapy, and applications of the theory to school and clinical practice.

18:820:505 ***Cognitive and Affective Psychology (3)***
Reviews selected theory and research in the areas of cognitive and affective psychology. Format will be a mix of lecture, formal presentations, and class discussion based on assigned readings, and demonstrations/activities to emphasize key concepts.

18:820:506 ***Social and Developmental Foundations of Human Behavior (3)***
This course is designed to provide students with an integrated overview of the social and developmental foundations of human behavior. It is difficult to understand any human behavior--either typical or atypical--without employing a developmental perspective. Likewise, human behavior is largely influenced by social factors and processes. These influences on human behavior wane and wax over a period of time, with time defined variously (i.e., historically, chronologically, biologically, and/or other experience-related time scales). Furthermore, these influences are not uniform across subgroups and across different contexts. To pull together these various issues, a life-span systems perspective will be utilized to examine contemporary, as well as classic issues in social and developmental psychology.

18:820:507 ***Learning Theory and Cognitive Behavioral Foundations (3)***
Introduces students to cognitive behavioral and learning theories, concepts, principles, and strategies, especially as they apply to psychotherapy. Students will become familiarized with several theories, techniques, and strategies that form the basis of most CBT approaches. In addition, they will learn to generate, from a learning theory perspective and a cognitive theory perspective, explanations of (case formulations of) (case conceptualizations of) (interpretations of) human events, through modeling, rehearsal, and shaping. Finally, case conceptualization skills from a CBT standpoint will be emphasized.

18:820:508 ***Systems Theory and Analysis (3)***
What is systems theory? *Systems of psychology.* Learn about how systems concepts are used in *cognitive* psychology and as a theoretical foundation for work with individuals, families, groups, organizations, and communities.

What are the social impacts when systems fail? *Social aspects of behavior.* Use systems theory to better understand and deal with the social forces that affect clinical psychologists and their clients, contributing to individual differences in behavior, human development, psychopathology, cultural and individual diversity, systems of oppression, and health disparities.

What can we do to fix it? *Dissemination and implementation science.* Become familiar with the systemic factors that affect the implementation and dissemination of evidence-based treatment programs and clinical interventions. Become familiar with the organizational dynamics of schools, clinics, hospitals, and other human service organizations where clinical psychologists work.

18:820:509 ***Analytic Foundations (3)***
This course is designed to introduce students to fundamental tenets of psychoanalytic theory and therapy, with an emphasis on clinically relevant models and concepts. Examines ways in which practitioners working in the

psychoanalytic/psychodynamic tradition think about the people we work with, the nature of their distress, and the potential benefits of psychoanalytically informed treatment. Students will video-record an initial session with a client conducted from a psychodynamic framework and write a case formulation of that client.

18:820:511 ***Practicum I (3)***
Practica are defined as field practice (either through internal practica housed at GSAPP or external practica at other sites) pursued under the intensive on-site supervision of practitioner supervisors. The practicum experience will vary according to the student's training level, the coursework taken, and the experiences available at the particular site. Practica are designed to provide you with the opportunity to practice what has been and is being learned through coursework, as well as an opportunity to learn directly from experienced field supervisors. Students can learn about possible clinical practica through the annual Practicum Fair. Clinical and School psychology students are approved for these positions by the GSAPP coordinator of practicum placements.

18:820:512 ***Introduction to Analysis and Single-Case Design***
Introduces the student to the process of analysis using baseline logic and learning how it applies to single-case methodology. Provides an overview of behavior measurement and recording, visual analysis, and graphing. Basic single-case research designs will be discussed, including general characteristics, strengths, and considerations. General issues regarding internal and external validity will be explored, as well as ethical considerations in research design and implementation. Students will practice applying the principles of research design and ethics to the interpretation of research literature.

18:820:513 ***Basic Principles of Behavior Analysis***
Presents the student with an introduction to the basic principles and historical overview of applied behavior analysis, learning theory, and the fundamental principles of science and behavior. Students will learn to distinguish between respondent and operant models of behavior and conditions. Concepts and principles of behavior including reinforcement, punishment, stimulus control, verbal behavior, and motivional operations will be defined and discussed in the context of behavioral learning theory in order to establish a theoretical foundation for applications in advanced-level courses.

18:820:514 ***Applications of Behavior Analytic Principles: Changing Behavior***
Presents information on the applications of behavior analytic principles in changing behavior. Specifically, students will learn to select behavior targets for change, to establish and strengthen behavior, and to weaken behavior. Strategies for strengthening behaviors include a review of reinforcement, prompting, commonly used instructional approaches (e.g. DTI, incidental teaching), delayed reinforcement systems (e.g., token systems, contracts), and self-management approaches. Strategies covered for weakening behavior include extinction, differential reinforcement procedures, positive punishment procedues (e.g., aversive stimuli, overcorrection), and negative punishment procedures (e.g., time-out, response cost). Significant time is spent on discussing the ethics of behavior reduction and the negative side effects of the use of punishment procedures. The application of these principles in changing behavior will be illustrated through reviewing a variety of books and articles, which highlight the breadth, power, and ethical considerations of applied behavior analysis (ABA) in this context.

18:820:516 ***Advanced Topics in Applied Behavior Analysis: State-of-the-Art Strategies for Teaching Children with Autism and Related Disorders***
A sampling of state-of-the-art teaching strategies for children with autism and related disorders. Specifically, the student will develop a framework for conceptualizing verbal behavior and gain familiarity with the application of this framework to the education of children with autism and related disorders. Furthermore, the student will

develop an understanding of additional teaching strategies, such as precision teaching, rate building, and activity schedules. Other topics addressed include effective strategies for staff training and for working with families, increasing social skills in learners with acute stress disorders (ASDs), and collaborating with other disciplines. The goal of this course is to develop an understanding of the unique applications of a variety of applied behavior analysis (ABA) instructional techniques for learners with autism. The students should be able to conceptualize a comprehensive ABA program, and be able to select specific methodologies to address specific skill deficits.

18:820:517 ***Applications of Behavior Analytic Principles: Functional Assessment and Functional Analysis***
Focuses on understanding the functions of challenging behavior, becoming familiar with various methods of determining the functions of behaviors, and developing behavior intervention plans that match the functions of the behaviors. The student will learn how to observe, collect data, and interpret data in the assessment of challenging behaviors. Specifically, students will learn the methods for obtaining descriptive data and the procedures for conducting systematic manipulations, such as functional analyses (FA). Variations of FA procedures will be described, including brief FA and procedures that are easier to implement in natural settings. Specific single-subject experimental designs will be reviewed in the context of FA. The ethical considerations inherent in behavioral assessment, treatment, and research will be reviewed. A variety of articles describing state-of-the-art methods for FA will be assigned and discussed.

18:820:518 ***Intensive Practicum in Applied Behavior Analysis and Autism***
Offers students pursuing certification in applied behavior analysis practicum experience working with individuals with autism.

18:820:519 ***Intensive Practicum in Home-Based Applied Behavior Analysis and Autism***
Provides students pursuing certification in applied behavior analysis with practicum experience working with individuals with autism in home-based service delivery settings.

18:820:521 ***Ethics For Behavior Analysis***
This course will familiarize the student with ethical issues and responsibilities of special educators and behavior analysts in the fields of education and mental health. Informed consent, due process, protection of confidentiality, and selection of least intrusive, least restrictive behavior change procedures will be presented and discussed within the context of case method. Ethical decision-making processes will be emphasized, and the relationship between ethics and law will be explored.
Prerequisites: 18:820:512, 18:820:513.

18:820:522 ***Personnel Supervision and Management in Applied Behavior Analysis***
This course will offer an introduction to the application of behavior analytic concepts and principles to problems of human behavior in complex organizations such as businesses, human service agencies, industries, and governments. Students will learn the basics of performance management, behavioral systems analysis, and supervision. Students will practice applying the concepts discussed in class through a semester-long OBM project.

18:820:523 ***Applied Behavior Analysis and Autism***
Through weekly reading assignments, group discussions, and brief lectures, students will learn the principles and techniques currently employed to support individuals with autism spectrum disorder (ASD) acquire functional language, appropriate social behavior, and general academic and living skills, as well as decrease problematic behaviors. Students will have the option to participate in the coursework for Registered Behavioral Technician (RBT) certification.

18:820:524 ***Pediatric Feeding Disorders***
Through weekly reading assignments, group discussions, rehearsal in class, and lectures, students will learn the behavior-analytic principles and techniques currently employed to help children with feeding disorders.

18:820:525 ***Prevention and Intervention in Tiered Systems (3)***
The purpose of this course is to provide students with an in-depth introduction to the foundational concepts and recent history of multi-tiered systems of service delivery (MTSS) in primary and secondary school settings. Students will learn of the rationale behind and intended outcomes of tiered services in K-12 settings; how tiered services are often organized and function; and critically, how school systems begin the process of designing and implementing tiered services.

As this is the introductory course to MTSS, students will be exposed to topics of instruction, social-emotional learning, school climate, assessment, intervention across contexts, and culturally responsive practices. By participating in this initial, introductory course, students will have the foundational knowledge required to *begin* helping their school systems evaluate the range of services currently available and identify future implementation needs.

18:820:526 ***Assessment and Data-Based Decision-Making in MTSS (3)***
The purpose of this course is to provide students with the foundational knowledge and applied skills required to engage in multiple forms of assessment used within a MTSS framework, and to use data collected from such assessments to guide decision making and consultation at the individual and systems levels. This course will help students learn the basics of educational and behavioral measurement, assessment, and evaluation, and will familiarize students with current best practices in data-based decision making. It is expected that students completing this course will be able to translate findings from research into data practices that guide and improve services for all learners.

18:820:529 ***Analysis of Quantitative Data***
Presents the student with an introduction to the graphical depiction and analysis of quantitative data, with an emphasis on quantitative or computational models of behavioral data. Students will learn to distinguish between common models of behavior, including those in the domains of matching, behavioral economics, and relapse. Basic learning processes including reinforcement, punishment, stimulus control, and motivating operations will be discussed in relation to their independent and combined effects on responding. Students will learn to construct common models, simulate experimental conditions they might encounter in a clinical setting, conduct model fits of obtained behavioral data, and describe how well the model performed.

18:820:531 ***Clinical Interviewing and Assessment***
Preparation for clinical work through experiential training. Demonstration and practice of basic helping skills and strategies for facilitating communication and change, with exploration and feedback on one's helping style. Provides the basic orientation to the role of the practicing psychologist.

18:820:533 ***Data-based Decision Making for Intervention in Elementary Literacy***
One of the largest barriers to effective implementation of MTSS is knowing how to intervene, and with which interventions. Informed by the latest science, as well as field-based experience, this course has been designed to offer in-depth training on reading interventions for the elementary grades. Course participants will gain expertise in the science of learning to read, and in evidence-based reading intervention. Lessons will cover how to determine which students require intervention, the nature of each student’s skill-based needs, and how to use data to find interventions that target those needs.

18:820:534 *Culture in ABA*

This course is designed to prepare students to bring a lens of cultural awareness to their practice of ABA. A primary focus will be learning how cultural variables can impact different aspects of behavioral intervention including building therapeutic rapport with families, client intake, behavioral assessment, treatment, and social validity. Students will gain
knowledge and tools that prepare them to provide culturally responsive intervention to clients and to work effectively in diverse professional settings. For context, a brief history of the field's treatment of marginalized groups and a basic overview of concepts such as systemic oppression, privilege, and intersectionality will be provided. Finally, cultural-level analysis of large-scale problems of social significance will be discussed along with ways that students can seek to address inequality and promote social justice as behavior analysts and as global citizens.

18:820:538 Sexuality and Psychology (3)

In this course, students will develop a foundational understanding of human sexuality, exploring its various dimensions including anatomy, physiology, and sexual/gender identity development. Students will be exposed to common sexual challenges and disorders as outlined in the DSM-5, and will critically examine notions of sexual normalcy and pathology. Through an integrative lens, students will be exposed to therapeutic techniques for addressing sexual concerns within the context of psychotherapy, and will begin developing the professional skills necessary to provide non-judgmental, culturally responsive and inclusive sexually informed-care.

18:820:539 Intervention and Data-based Decision Making for Elementary Mathematics

This course provides students with an opportunity to learn about multi-tiered systems of support (MTSS) within the framework of elementary mathematics. This will begin with an overview of elements of academic intervention and an introduction to data-based individualization in mathematics. The course will also focus on how young learners acquire numeracy skills and strategies for intervention, as well as discussing skills development of basic operations and problem solving in elementary mathematics. In addition to gaining knowledge of foundational skills, methods of how to foster the development of these skills in children who require intervention and assessment strategies that inform intervention will be explored.

18:820:541 Using Multi-Tiered Systems of Support (MTSS) to Build Comprehensive School-Based Mental Health Services-Change to systems

The purpose of this course is to provide students with the foundational knowledge and applied skills required to develop comprehensive school-based mental health (CSBMH) programs using a MTSS framework. This course will provide an overview of MTSS and facilitate students' understanding of key components of well-developed CSBMH programs. The course will highlight the importance of developing prevention and intervention programming focused on using social-emotional learning to build evidence-based prevention and intervention programs. Readings and assignments will challenge students to explore issues of diversity, equity, and inclusion and their influence on systemic change. Students will also begin to develop their understanding of school systems, and the steps required to implement sustainable CSBMH programs. It is expected that students completing this course will be able to translate findings from research into implementation practices that guide and improve the delivery of mental health services.

18:820:542 MAP-MTSS Capstone Project 1 & 2

For this course, students will engage in a comprehensive capstone project that integrates their knowledge of Multi-Tiered Systems of Support (MTSS) with real-world applications. This course will allow students to identify an issue related to tiered services within a school or district and develop an evidence-based, data-driven plan to address it. Students will conceptualize the issue through psychological theory and empirical research while applying MTSS principles to propose systemic improvements. The project will include both an applied component and the development of a formal program proposal.

18:820:543 Leadership and Systems Consultation (3)
The successful development and implementation of multi-tiered systems of support (MTSS) in schools requires careful planning by school leadership and involvement from many key stakeholders, such as teachers and support staff. This often requires multiple forms of ongoing consultation by individuals who not only have technical knowledge of evidence-based practice but also possess skills in guiding other educators through a process of problem-solving and professional development. This course aims to give students foundational skills that will enable consultation services to enhance the quality of Tier 1 programming and operations at the Tier 2 and Tier 3 levels of an MTSS framework and develop skills in consultation around large-scale planning and initial implementation of MTSS.

18:820:550 History and Systems of Psychology (3)
This course examines the nature and sources of the major theoretical paradigms in psychology. The focus is on historical and epistemological roots of the dominant schools of psychology, as well as on the diverse value frameworks and images of the human being that underlie contemporary approaches to psychopathology, personality, and psychotherapy. Develops the student's ability to examine critically the different theoretical approaches in professional psychology. Paradigms studied include positivism and associated philosophy-of-science models, behaviorism, psychoanalysis, pragmatism, hermeneutics, postmodernism, cultural psychology, humanistic psychology, and existential-phenomenology.

18:820:559 Theory and Practice of Adult Learning and Training
Experiential learning of the issues and problems that confront adults in training groups: issues of trust, resistance to change, power and authority, norms and practices, cultural diversity, and conflict management. Design and facilitation of adult training modules for corporate employees, health service workers, educators, and parents. Focuses on the individual as a unit of learning.

18:820:560 Self, Psychopathology, and the Modern Age (3)
Offers an interpretive or hermeneutic perspective on psychological aspects of modern culture and society. The course focuses on various forms of psychopathology and on exemplary expressions of modernist and postmodernist culture (including literature and the visual arts)--with each used to shed light on the nature of the self and subjectivity in the modern era. The forms of psychopathology considered include schizophrenia and schizoid personality disorder, as well as some of the following: narcissistic personality, borderline personality, depression, eating disorders, and dissociative identity disorder. Provides an introduction to hermeneutics, phenomenology, and cultural psychology as alternative approaches to an understanding of personality and psychopathology.
Not offered every year.

18:820:563 Child Psychopathology: Theoretical, Experimental, and Descriptive (3)
This course will provide an overview of the most common expressions of child and adolescent psychopathology. The learning objectives include conceptual, empirical, and clinical issues related to the mental health of children and adolescents. The diverse factors that influence the etiology and expression of disorders will be considered, such as

genetics, family influences, and culture. Students will become familiar with the DSM-5 and how to conceptualize cases. Students will also be taught how to communicate as a professional through writing and presentations in order to convey information in a clear and understandable manner. Although interventions will be discussed, they will not be a primary emphasis in this course. This course is designed to advance the student's understanding of the current state of knowledge with regard to etiological factors and the diagnostic issues related to the expression of various childhood disorders.

18:820:565 Adult Psychopathology*: (3)*
Largely DSM-based. Covers the process of diagnosis, differential diagnosis, case description, and the conduct of specialized diagnostic assessments including the mental status examination and various tests and inventories. Students visit local psychiatric facilities to interview patients and write findings. Classroom instruction combines interactive group exercises and role-plays, web-based resources, video and film characterizations, lectures, readings, and class discussion. Frequent papers and assignments are required.

18:820:568 ***Equity and Anti-Racism in Education (3)***
What would it look like for all learners to have equitable, fair, and just opportunities for success in school? By taking this course, students are invited to understand the multidimensional, dynamic concepts of oppression and marginalization and their role in education. We will adopt an intersectional perspective that recognizes multiple social categories and the associated power imbalances within them, while also centering race as a focal point of analysis. We will investigate pervasive narratives about the educational experiences of historically marginalized groups, explore what sustains those narratives, and identify ways to disrupt them. We will analyze policies and practices that hold promise for addressing systemic inequalities in education. Finally, we will engage in and value sticky dialogues about (in)equity, marginalization, and (anti)racism, and think critically about our own personal assumptions about and experiences with these topics.

18:820:570 Psychological Intervention with Ethnic and Racial Minority Clients and Families (3)
Focuses on the psychological and cultural experiences of African American, Hispanic/Latino, Asian, Asian Indian, and gay and lesbian populations. Implications of these findings are discussed in terms of their impact on assessment, intervention, research, and training in the cross-cultural context. The need for alternative strategies in the delivery of psychological services to minorities is addressed. Both semesters (fall and spring) include both didactic and experiential group process formats.
Prerequisite: Must be at least a second-year GSAPP student.

18:820:575 ***Diversity and Racial Identity (3)***
Using an empirically and theoretically based seminar format with both didactic and discussion components, this course teaches about the history, experiences, and backgrounds of racial and ethnic groups such as African Americans, Asians, and Hispanics/Latinos. Examines how diverse factors such as sexuality, gender, religion, socioeconomic status, and tendency to stereotype may function as risk and protective factors that are associated with human functioning, and how they may influence the development of one's identity. Students learn to alter and improve consideration of what is healthy or abnormal, while acquiring a broader repertoire of effective practices with diverse populations in the areas of intervention, assessment, research, and supervision/training. The course considers cross-cultural societal and organizational contexts. The course meets diversity requirements and may facilitate preparation for dissertation and/or comprehensive exams.
Prerequisite: One completed year of doctoral study.

18:820:581 ***Statistical Methods and Design Analysis (3)***
Develops a practical, conceptual understanding of statistical data analysis, hypothesis testing, statistical inference, and power analysis. Develops skills in conducting and interpreting several types of analysis of variance (ANOVA), chi square analysis, and Pearson correlation/bivariate regression analysis. This course also develops theoretical knowledge and applied skills in psychometrics including classical test score theory, reliability, validity, and test construction. SPSS computer software is used for data analysis.

18:820:585 ***Advanced Statistics and Research Design (3)***
This course is designed to provide students with experience conducting and interpreting multiple regression analyses and understanding more advanced statistical topics (e.g., moderation, mediation, power). This course will also provide students with an overview of common research designs and methodologies, along with the issues about the threats to valid inference and interpretation of research results. Finally, the course addresses psychometrics and measurement issues in psychology and considers how culture and race may play a role in statistical analyses and interpretation. The material presented in this course will provide the necessary knowledge and skills for critically analyzing and evaluating research. .
Prerequisite: 18:820:581.

18:820:593 ***Community Psychology (3)***
This course will introduce community psychology to students as a specific approach to understanding a range of mental health and psychosocial issues. The course will take a broad ecological and global perspective in terms of examining some of the most pressing large-scale concerns we face at this time (e.g., chronic illness; discrimination and stigmatization; disasters, epidemics, and complex emergencies; violent conflicts; and the "three I's": inequality, injustice, and intolerance). The course will address how specific community-based interventions can impact the health of local communities through promoting cultural dialogue, engagement, and well-being, with a continued focus on prevention. Three basic questions will guide the course: 1) what are the factors in various community settings (large and small) that most strongly affect psychological well-being? 2) what are the best evidence-based programs for preventing mental, emotional, and behavioral problems and promoting psychological well-being? 3) what do we know about the problems associated with implementing these programs and the most effective implementation strategies?

18:820:595 ***Self-Regulation Methods: Mind/Body Interventions***
Use of relaxation methods, breathwork, meditation, and biofeedback. The kinds of psychological and medical disorders that can be helped by these interventions are discussed. Data from clinical research and theoretical bases for these interventions are presented. Class time is divided between didactic and practice. Students are evaluated by observation and exam and are expected to demonstrate personal competence with the practices, a theoretical understanding of the psychological and psychophysiological aspects of these practices, and an ability to teach clients.

18:820:601,602 ***Independent Study in Professional Psychology (BA,BA)***
Papers required based on independent study.
Prerequisites: Prior to registration, students must consult faculty members to determine arrangements and secure an approval form.

18:820:610 ***Seminar in Professional Psychology (BA)***

18:820:613 ***Ethics and Professional Development (3)***
This class will explore the values and ethical ideas that guide the professional practice of psychology, including philosophical foundations of ethical principles, professional codes of conduct, professional self-definition and self-

regulation, and governmental sanctions (judicial, legislative, and executive). Sample areas covered: history and identity of professional psychology; APA's Ethical Principles and Standards; informed consent; competence; multiple relationships; confidentiality vs. access to clinical information; the ethics of self-care; practicing ethically within organizational pressures and demands; the ethics of multicultural competence/humility; obtaining licensure as a psychologist, and ethical issues in emergent areas of practice such as telepsychology, social media and artificial intelligence. Students are expected to enhance their capacities for ethical reflection and decision-making by learning applicable laws and codes, exploring their own values and commitments, then discussing and working through the dilemmas that arise when these come into conflict. Students will also be encouraged to reflect on their own professional development and understanding of the field as one of life-long learning within a diverse and interconnected community of practice and scholarship.

18:820:614 ***Professional Ethics, Standards, and Career Development (3)***
This class will explore the values and ethical ideas that guide the professional practice of psychology, including philosophical foundations of ethical principles, professional codes of conduct, professional self-definition and self-regulation, and governmental sanctions (judicial, legislative, and executive). Sample areas covered: history and identity of professional psychology; APA's Ethical Principles and Standards; informed consent; competence; multiple relationships; confidentiality vs. access to clinical information; the ethics of self-care; practicing ethically within organizational pressures and demands; the ethics of multicultural competence/humility; obtaining licensure as a psychologist, and ethical issues in emergent areas of practice such as telepsychology, social media and artificial intelligence. Students are expected to enhance their capacities for ethical reflection and decision-making by learning applicable laws and codes, exploring their own values and commitments, then discussing and working through the dilemmas that arise when these come into conflict. Students will also be encouraged to reflect on their own professional development and understanding of the field as one of life-long learning within a diverse and interconnected community of practice and scholarship.

18:820:622 ***Biological Bases of Human Behavior (3)***
Basic principles necessary for understanding brain behavior relationships; emphasis on linkage between models of neuropsychological functions, physiological mechanisms, and biochemical processes; issues, methods, and problems fundamental to understanding the role and limitations of psychotropic drugs in management and treatment of major clinical problems such as pain, anxiety, major affective disorders, schizophrenia, other psychoses, and alcohol and drug dependencies.
Prerequisite: Undergraduate course in physiological psychology or equivalent, or 18:820:500.

18:820:631 ***Social-Emotional, Behavioral, and Personality Assessment: Child (3)***
The purpose of this course is to attain knowledge of school-based social-emotional, behavioral, and personality assessment of children and adolescents. The course integrates multidimensional assessment (interviews, direct behavioral observations, behavioral ratings, functional behavioral analysis, and screening tools) with current theories, research, and best practices. Assessment includes the evaluation of externalizing disorders, internalizing disorders, social competence, adaptive skills, and personality. Issues related to working with children from diverse populations will be integrated throughout the course in the form of lectures, assignments, and discussions.

18:820:633 ***Cognitive Assessment (3)***
The purpose of this course is to develop competent skills for the cognitive assessment of children, adolescents, and adults. This course integrates the skills of administration and scoring of major cognitive assessment instruments (i.e., WISC-V, WAIS-IV, WJ-IV COG) in the context of recent cognitive theories and research. An overview of the Stanford Binet Intelligence Scale and other tests will also be presented. The Cattell-Horn-Carroll Theory of

Cognitive Abilities will be contrasted with other conceptualizations of intelligence. The conceptualizations of intelligence will examine the historical and contributions of racism in the development of the tests and how information from the tests is used in education, employment, and and social intercourse. The topics of Learning Disorders and neuro-psychological assessment are introduced along with historical, conceptual, and relevant clinical issues. The APA/AERA Ethics Codes and Professional Standards pertinent to testing and dissemination of test results will be discussed along with educational, employment, and social implications of assessment and development of communication skills and appropriate interventions. Issues of assessing culturally and linguistically diverse individuals are integrated throughout the course and systemic cultural contributors to the "achievement gap."

18:820:634 ***Psychodynamic Interview***
Enhance interviewing skills and formulate a case within a broad, psychodynamic, and life-history framework, arriving at a diagnostic impression, along with appropriate recommendations for treatment. Students interview clients while being observed and receive feedback on interviewing style and assessment reports. Each student must conduct one interview based on videotaped interviews.

18:820:638,639 ***Personality Assessment: Adult (3,3)***
An introduction to the major "projective" techniques used in the psychological assessment of adults: the Thematic Apperception Test and the Rorschach Inkblot Method. The main focus will be on learning to administer, code (in the case of the Rorschach), and interpret these tests; and, more generally, to understand their relevance for developing a complex grasp of personality structure and dynamics. Some individual supervision is provided.

18:820:689 ***Professional Practicum Placement (3)***
One day per week. Required during most semesters for full-time Psy.D. students. Special section(s) for regional public school practicum. For characteristic placements, see listings under each program.

18:820:700 ***Advanced Dissertation and Research (3)***
Dissertation research design and conduct, from selecting a topic through interpreting the results, and writing the final manuscript. Group supervision in dissertation research. This course can be used to meet some of the 9 required dissertation credits.

18:820:701,702 ***Dissertation in Professional Psychology (3,3)***
Required of all Psy.D. students actively involved in and soliciting input on dissertation preparation, literature research, data collection, and writing of a doctoral project (fall, spring, summer).
Student must register with a particular faculty adviser.

18:820:703 ***Dissertation in Professional Psychology (1)***
For students defending during the first two weeks of September only (by special permission of the department chair).

18:820:800 ***Matriculation Continued (0)***
May be used only if a student has a written official leave of absence granted by the department chair.

18:820:811 ***Graduate Fellowship (0)***

18:820:866 ***Graduate Assistantship (BA)***

18:820:877 ***Teaching Assistantship (BA)***

GSAPP Courses (GSAPP)

Clinical Psychology 821

Clinical Psychology 821

18:821:511 ***Suicide Risk Assessment Across Populations and Settings (3)***
This course addresses the assessment of suicide and related topics. In order to address suicide, one must assess suicide, but suicide assessment is not easy. Students are provided with an overview of psychological measurement and the theories and topics related to suicide that inform assessment. The main focus of the course will be reviewing the gold-standard measurements for suicide ideation and behavior, as well as understanding factors one should consider when picking an assessment for a particular use. Issues related to diversity and ethics will be attended to throughout the course.

18:821:512 ***Evidence-Based Clinical Interventions for Suicide (3)***
The suicide rate has risen steadily over the past decades with over 800,000 people dying by suicide each year globally (WHO, 2014). Over the last 50 years, several interventions have been formulated and tested to treat suicidal thoughts and behaviors (STBs), and thereby reduce the rate of suicide. This course introduces students to interventions that have been designed to reduce the suicide rate and/or suicidal behavior. The course covers the history of such interventions and then focuses on evidence-based approaches to the treatment of suicide risk at an individual level. Throughout the course, students will learn an overview of a number of different approaches to treating suicide risk, the evidence supporting (or failing to support) their use for diverse populations, and the key target mechanisms addressed by the interventions.

18:821:543 ***General GSAPP Clinic (0.5)***
Required of all clinical and school students.

18:821:547 ***Introduction to Group Psychotherapy (3)***
The study of group leadership and group therapy covered through lectures and readings; experiential process group and/or observation of an ongoing psychotherapy group; sharing or group leadership experiences; and observation of videotapes.

18:821:555 CBT: Essential Skills for Treatment of Anxiety Depression & Personality Disorders ***(3)***
This course focuses on the clinical application of specific behavioral and cognitive principles and practices that are used with adults with anxiety and depression. The focus is on adult populations, but the principles and practices have broad applicability. Principles will include cognitive and learning theories. Practices will include case conceptualization, treatment planning, progress/outcomes monitoring, exposure-based interventions, behavioral activation, and cognitive restructuring. The course will also expose students to third-wave practices, such as mindfulness and values-based behavioral approaches (e.g., Acceptance and Commitment Therapy). Students are required to complete an experiential component of the course, which typically entails applying course-taught techniques with a case that the student is seeing through the school clinic or at the student's external practicum.
Prerequisite: 18:820:504 (school), 820:509 (clinical), or instructor's approval.

18:821:558 ***Learning Disabilities - Adult (2)***
Training in psychological assessment and integrative report writing is a fundamental and necessary requisite for being a well-rounded psychologist. The primary objective of this course is to teach and train students on individual

psychological tests (cognitive, academic, neuropsychological, objective personality) in preparation for conducting cognitive evaluations through the GSAPP Center for Psychological Services Clinic. Through didactic lecture, experiential group exercises, and group supervision of cases, students are expected to demonstrate knowledge and competency in the administration, scoring, and interpretation of various assessment tools, and understand how foundations of assessment are relevant to the field. In addition to providing training on particular assessment tools, the course is also designed to expose students to a range of disorders that are commonly assessed using cognitive measures (ADHD, Specific Learning Disorder, etc.). This course is designed for student interaction and application of principles offsets and measurement. The didactic component of the course will be expanded by case data presentations, pragmatic experiential experiences (e.g., in-class mock administration/scoring of measures), and group discussion of cases.

18:821:561 ***Health Psychology (3)***
This course is designed to introduce students to the field of health psychology, including an overview of psychology and health, stress, coping, health promotion, substance use, health disparities, weight management and nutrition, positive psychology/spirituality/meaning, pain, chronic illness and complementary and integrative medicine, health services and adherence, heart disease and stroke, cancer, HIV/AIDS, and the future of health psychology. There is a focus on applications to clinical practice, including individual, group, and community-level interventions, working related clinical systems, and dissemination and implementation science.

18:821:562 ***Behavioral Couples Therapy (3)***
Introduces students to national couple trends and normative couple behavior. Teaches theoretical and empirical bases of behavioral couples therapy and clinical applications. Topics include interviewing; ethics; self-report and observational assessment procedures; treatment planning; intervention techniques such as behavior exchange, communication, and problem solving; and cognitive and affective interventions. Applies behavioral couples therapy to couples from diverse ethnic/racial backgrounds and to gay/lesbian couples.

18:821:601 ***Independent Study in Clinical Psychology (3)***
Register for "By Arrangement" credits. Prior to registration, students should consult faculty members to determine arrangements. Students are required to submit papers based on their studies. Faculty member must sign-off on gold-colored "Independent Study" form. Submit signed form to student services coordinator.
Prerequisite: Students must consult faculty members to determine arrangements.

18:821:605 ***Integrative Perspectives on Trauma (3)***
This course is designed to introduce students to the treatment of trauma-spectrum disorders, focusing on interventions for adults. Evidence-based treatments for PTSD and Complex Trauma will be reviewed, with emphasis on clinical examples and applications. Individual, family, and community approaches to understanding trauma will be presented, as well as political and ecological perspectives that reflect the prevalence of trauma-spectrum disorders in global mental health. Informed by a philosophy and value of cultural responsiveness, the course examines the applicability and appropriateness of major trauma interventions for various cultural and ethnic communities.

18:821:608/609 ***Clinical Research and Treatment for Youth Anxiety and Depression (3,3)***
This clinical applications course will provide didactic and experiential training in state-of-the-art diagnostic, assessment, and treatment procedures for youth anxiety and mood disorders (ages 8-17). Course 608 is run in the fall and is open to anyone. Course 609 runs in the spring and is only open to students who are selected for the Youth Anxiety and Depression Clinic practicum. In the fall (608) course, students will become competent in

the administration of a structured diagnostic interview (e.g., Anxiety Disorders Interview Scale; Child Depression Rating Scale) and objective measurement (e.g., Multidimensional Anxiety Scale for Children, Revised Child Anxiety and Depression Scale). Students will develop a knowledge base of theoretical and empirical research on the phenomenology, assessment, and treatment of internalizing disorders in youth, focusing on evidence-based protocols. Students will receive didactic and experiential training in multiple manual-based treatments, including the Coping Cat, Primary and Secondary Enhancement Therapy, and the Individual Behavioral Activation Therapy protocols. Students who enroll for the course may also participate in a clinical research setting, recruiting research participants, collecting data, administering assessments, and providing treatment. This will provide a model for how research can be completed within a service setting. Students must receive permission from the instructor prior to enrolling for or attending this course.
Prerequisite: Student must be selected by instructor to take this course.

18:821:612 ***Fundamentals of Dialectical Behavior Therapy (3)***
Familiarizes students with dialectical behavior therapy (DBT), an evidence-based psychosocial treatment initially developed for suicidal individuals with borderline personality disorder (BPD). Students will be taught the primary theories, principles, and strategies that inform DBT. Students will also become familiar with the latest research on DBT for BPD as well as adaptations for other populations. Lecture, demonstration, multimedia applications, and group discussion will be used as the primary teaching methods. DBT is a complex treatment with multiple facets. This course will be a necessary prerequisite before using DBT in an applied setting.

18:821:613 ***Dialectical Behavior Therapy in Practice (3)***
Focuses on the clinical application of dialectical behavior therapy (DBT), an evidence based treatment designed for individuals with borderline personality disorder and comorbid psychological disorders. Students learn how to conduct a multidimensional assessment using structured clinical interviews, generate a DBT case conceptualization, and implement DBT. Students will have a variety of opportunities to gain experiential practice that may include DBT individual therapy, co-therapy on a DBT case, rating tapes of DBT sessions, and/or co-leading DBT skills-training groups. The emphasis for experiential practice will be on developing adherence to the DBT model, maintaining fidelity to the model, and conducting outcomes and psychotherapy process assessment in clinical cases. Topics will focus primarily on adult cases. This course is part of a one-to-two year practicum experience.
Prerequisites: 18:821:612 and/or instructor's approval.

821:614 ***Practice in DBT II (BA)***
This course is the second of a yearlong sequence that focuses on the clinical application of Dialectical Behavior Therapy (DBT), an evidence-based treatment designed for individuals with borderline personality disorder and comorbid psychological disorders. Students learn how to conduct a multidimensional assessment using structured clinical interviews, generate a DBT case conceptualization, and implement DBT. Students will have a variety of opportunities to gain experiential practice that may include DBT individual therapy, co-therapy on a DBT case, rating tapes of DBT sessions, and/or co-leading DBT skills training groups. The emphasis for experiential practice will be on developing adherence to the DBT model, maintaining fidelity to the model, and conducting outcomes and psychotherapy process assessment in clinical cases. Topics will focus primarily on adult cases. This course is part of a one-to-two year practicum experience.
Prerequisites: 18:821:613 and instructor's approval.

18:821:615,616 ***Family Therapy (3,3)***
Discusses family systems theory as a new paradigm for conceptualizing human dilemmas; major theoreticians and schools in the family therapy field; core concepts and their relevance for the clinical application; phases of psychotherapy with a family, basic interventions, implementation of change, and the main attitudes of a family therapist exemplified through clinical experiences; formulation of a psychosocial assessment of a family system with the therapist's use of self within the "therapeutic system." Participants study their own clinical work and focus on specific strategies of intervention according to different types of families. Family therapy case with supervision required.
This is a yearlong course; both semesters required. Prerequisites: Advanced standing. Previous counseling/therapy experience and coursework required.

18:821:617 ***Psychoanalytic Case Formulation and Diagnosis (3)***
This course will utilize clinical experiences with adult and child psychotherapy clients to focus on complex clinical issues in psychodynamic psychotherapy, integrating case presentations with assigned reading from the empirical, theoretical/clinical, and professional literatures. Students will have several opportunities to present diagnostic and session material, as well as to develop consultation skills. This course also offers an exciting opportunity to learn from and to receive case consultation from senior clinicians at the Austen Riggs Center, a residential psychodynamic treatment facility in Stockbridge, MA. The Austen Riggs Center has been providing high-quality psychodynamic care for patients with severe mental illness for the past 100 years. Faculty from the Austen Riggs Center will join course sessions via Zoom to present on a variety of psychoanalytic topics unique to their milieu as well as to provide consultation for ongoing clinical cases being presented in this seminar.

18:821:623 Introduction to Neuropsychological Assessment (3)

This course is an advanced seminar with the goal of introducing students to the theory and practice of Clinical Neuropsychology. This specialized subfield of Clinical Psychology aims to assess and interpret the relationship between nervous system function, cognition, emotion and behavior; and to apply this knowledge to the design of individualized patient interventions. Students will gain an understanding of the field through review of adult and pediatric neurodevelopmental and neurological disorders. The psychosocial adjustment of patients living with each disorder and the dynamics among individuals involved in their care are additional themes of emphasis. The course takes an interdisciplinary approach integrating information from several subfields of medicine (e.g. neurology, neuroradiology and psychiatry) and psychology (e.g. cognitive, abnormal, developmental, biological, health psychology). Students will acquire knowledge through review of both clinical cases and research outcomes. I will also introduce you to some neuropsychological tests. An introductory background in neuroscience is required.

18:821:624 ***Theory and Practice of CBT II (3)***
Required of Ph.D. clinical students and open to Psy.D clinical students. The focus is mainly on the dissemination and implementation of evidence-based CBT treatments for adults. There is an emphasis on effective global applications of CBT including the nature of successful cultural adaptations of specific treatments for problems such as depression, substance abuse, and eating disorders. Different forms of diversity (e.g., sexual orientation) are also covered.
Required of clinical Ph.D. students. Prerequisite: Only students who took the spring segment may register for fall.

18:821:625 ***Theory and Practice of CBT I (3)***
Required of all first-year Ph.D. students in the clinical program; open to students from the Psy.D. program. Provides comprehensive and in-depth coverage of cognitive behavior therapy for adult clinical disorders. The guiding

principles of social learning (social cognitive) theory are emphasized. Consistent with the philosophy of the clinical Ph.D. program, the course integrates theory, research methodology, and clinical application.
Required of all first-year Ph.D. students in the clinical program.

18:821:633 ***Existential, Phenomenological, and Humanistic Psychology and Psychotherapyy (3)***
The course offers an introduction to existential, phenomenological, and humanistic approaches in clinical psychology and psychotherapy. The primary emphasis will be on existential-humanistic therapy and existential analysis, and on phenomenological approaches to treatment, with attention paid to cultural and multicultural issues connected with these developments. More than other psychological approaches, existentialism and humanism emphasize the importance of a sense of meaning and the role a person's general orientation or vision of existence can play in psychological well-being. Phenomenology seeks a rich and accurate understanding of subjective life--of "what it is like" to be a particular individual or to experience a particular kind of mental disorder. Students will be introduced to the psychological, philosophical, and cultural perspectives that have inspired and undergird these approaches. The focus, however, is on clinical interventions and their theoretical basis, hence on the relevance such perspectives have for practice, especially in psychotherapy.
Not offered every year.

18:821:635 ***Integrative Couple Therapy I***
Students will learn the theoretical and empirical bases of various modalities of couples therapy, such as Behavioral Couple Therapy, Emotionally Focused Therapy, Imago, Experiential/Body-Based Treatment, and the Gottman Method. Students will also learn about treating couples using systems- and multiculturally-informed perspectives. To facilitate application of the material, students will review tape of real couples therapy sessions and may have the option to take on their own couple case. Special topics include trauma, mindfulness/self-regulation, individual psychopathology, family caregiving (kids, parents, extended family), sex therapy, infidelity, intimate partner violence, and separation/divorce. Students will have the opportunity to take this as a year-long course to receive comprehensive training in couple therapy. However, students have the option of taking either semester of this course, depending on scheduling availability and interests in topics

18:821:636 ***Integrative Couple Therapy II***
Students will learn the theoretical and empirical bases of various modalities of couples therapy, such as Behavioral Couple Therapy, Emotionally Focused Therapy, Imago, Experiential/Body-Based Treatment, and the Gottman Method. Students will also learn about treating couples using systems- and multiculturally-informed perspectives. To facilitate application of the material, students will review tape of real couples therapy sessions and may have the option to take on their own couple case. Special topics include trauma, mindfulness/self-regulation, individual psychopathology, family caregiving (kids, parents, extended family), sex therapy, infidelity, intimate partner violence, and separation/divorce. Students will have the opportunity to take this as a year-long course to receive comprehensive training in couple therapy. However, students have the option of taking either semester of this course, depending on scheduling availability and interests in topics covered.

18:821:637 ***Basic Principles and Methods of Psychoanalytic Therapy (3)***
This course focuses on the clinical application of evidence-based psychodynamic/psychoanalytic treatment models for adult clients. Students will learn how to conduct a multidimensional psychodynamic assessment using semistructured clinical interviews, generate a psychodynamic case conceptualization, and implement an evidence-based treatment model. The evidence-based psychodynamic treatments to be covered include: Transference-

Focused Psychotherapy (TFP), Mentalization-Based Therapy (MBT), and Interpersonal Reconstructive Therapy (IRT).
Prerequisite: 18:821:535 or permission of instructor.

18:821:639,640 ***Short-Term Dynamic Psychotherapy (3,3)***
Psychodynamic understanding and technique as applied to the short-term treatment (10 to 35 sessions) of selected clients; current models of practice based on either drive/structural, relational, cognitive/dynamic, emotion-focused or integrative concepts; and theory and application demonstrated through use of videotapes. Discussion topics include psychotherapy integration, transference and resistance, curative factors, research approaches, gender and sociocultural factors, modern attachment and mindfulness-based approaches, and values and visions in psychotherapy. Therapy case with supervision required.
Yearlong course; both semesters required for credit to be given. Prerequisite: Previous course in psychoanalytic theory or therapy and/or supervised experience in psychodynamic therapy.

18:821:641 ***Cognitive Behavioral Therapy Foundations Supervision (1.5)***
Required of first-year clinical students.

18:821:642 ***Psychodynamic Foundations Supervision (1.5)***
Required of first-year clinical students.

18:821:653 ***Supervision & Professional Development (1)***
Biweekly group supervision to discuss cases and issues that arise in practicum settings.
Required for first-year clinical Psy.D. students.

18:821:655 ***Training, Supervision, and Consultation: Expanded Roles and Competencies of Health Service Psychologists (3)***
The professional roles of psychologists are ever-expanding and today's clinical psychologists must be prepared to assume multiple roles throughout one's career. This class is designed to expose students to the current body of research on training, clinical supervision, and professional consultation in psychology. Training refers to the educational and instructional processes involved in the initial (e.g., graduate education) or ongoing (e.g., continuing education) learning to establish competence as a psychologist. Supervision refers to mentored activities that influence a provider's direct or indirect service with clients of psychological care. Consultation refers to a diverse array of activities wherein psychologists provide specialty services or work in collaboration across professions and in diverse settings (e.g., medical, school, forensic, business). The course includes multiple experiential assignments and learning opportunities to begin the student's development in training and supervisory competencies.
Prerequisite: Must be a third-year clinical student or above.

18:821:657,658 ***Internship in Clinical Psychology (3,3)***
Required for all Psy.D. students in the clinical psychology program, usually during the fourth or fifth year of training. Provides a 12-month (1,750 hours) supervised experience in a setting determined by the program chair and the student.
Prerequisites: Students must have completed all coursework and required pre-internship practicum hours and successfully passed the written comprehensive exams.

18:821:659 ***Part-Time Internship in Clinical Psychology (BA)***
For students who have approval to complete the supervised experience over a two-year period. Register for 2 credits in the fall and 1 credit in the spring semester, totaling 3 credits each year.
Prerequisite: Special permission from the department chair.

GSAPP Courses (GSAPP)

School Psychology 826

School Psychology 826

18:826:506 ***Practicum Group Supervision (1)***
Biweekly group supervision addressing issues that arise in practicum settings.
Required of all first-year non-advanced school psychology students during their first semester of practicum.

18:826:532 ***Basic Therapeutic Strategies with Children and Adolescents (3)***
This course introduces first year graduate students to the therapeutic interview and to basic attending and communication skills that are essential to both the initial visit and the ongoing therapeutic process. Students will demonstrate the knowledge, skills, attitudes, and self-awareness necessary to conduct effective initial therapeutic interviews and ongoing therapeutic interventions. Throughout the course, they will improve upon their use of "micro-counseling" skills as listed in the syllabus. In this course, students will consider multicultural and diversity aspects as they relate to the major concepts of this course. The course will also prepare students for conducting intakes at community-based mental health clinics, including the Psychological Clinic at Rutgers.

18:826:543 ***Human Development (3)***
This course is designed to provide students with an overview of human development throughout the lifespan, as relevant to school and clinical psychologists. In this course we will explore how processes of physical, cognitive, and socio-emotional development occur across the lifespan, emphasizing an ecological-systems view of dynamic person - context interactions in families, schools, communities, and culture. We will critically examine prevailing theoretical and conceptual perspectives on development and related themes. Throughout the course, students will develop an understanding of the processes that underlie developmental change, including contributing biological and environmental factors, and the contextual factors such as cross-cultural, familial, school, and peer-group influences. Students will acquire foundational knowledge of developmental psychology including the theories and science of development, needed for effective service delivery of professional work in psychology.
Required for school psychology students; elective for all others.

18:826:544 ***Pediatric Behavioral Medicine (3)***
This course focuses on the foundational knowledge needed to deliver effective, integrated pediatric behavioral healthcare in a variety of child-serving systems, including healthcare settings and schools. The course will examine concepts and skills related to integrated behavioral healthcare and interprofessional collaboration. Additionally, evidence-based screening, prevention, and treatment practices for commonly occurring pediatric conditions will be explored.

18:826:550 ***Introduction to School Psychology (3)***
This course provides an introduction to the profession and practice of school psychology. Topics to be discussed include the historical confluences of school psychology and psychological services in schools and the roles and functions of school psychologists. Current legal, ethical, and professional issues, in addition to relevant educational laws and the cultures of schools, will be discussed.

18:826:555 ***Exceptional Children (3)***
This course is designed to introduce the student to the topics of human disability and exceptionality. The areas emphasized are normalization, stigma, inclusion, intellectual disability, intellectual superiority, sensory impairment, physical disability, emotional/behavioral disability, special education services, and personal and family impact.

18:826:557 ***Psychological Foundations of Learning Disabilities (3)***
Focuses on the administration, scoring, and interpretation of major standardized assessment approaches (e.g., cognitive, achievement), and assessing various child learning difficulties. The roles of RTI, CHC theory, and cross-battery assessment approaches for the identification and monitoring of learning difficulties and disabilities are presented. Under faculty supervision, the completion of two comprehensive clinic-based cases is required.
Prerequisites: Successful completion of the first year of full-time study at GSAPP and high competency of administration and scoring of major cognitive assessment batteries.

18:826:558 ***Adult and Organizational Learning and Change: Effective Program Planning and Implementation (3)***
Examines theory, research, and practice of adult and organizational learning and change. Emphasizes bringing evidence-based practices and programs to schools and other human service settings through understanding the process of innovation implementation. Focuses on how to incorporate a new practice or program in the functioning of an individual, group, or organization in systems change efforts.

18:826:602 ***School-Based Psychological Intervention (3)***
This course is designed to introduce doctoral students to the research, theory, and practice of implementing evidence-based practices in schools to improve the emotional, social, and behavioral functioning of children and adolescents. The course will address theory, case conceptualization, and research related to behavioral and cognitive behavioral interventions and will expose students to direct and indirect common practice elements along with manualized interventions to address internalizing and externalizing behaviors in school-aged children. The course is also designed to expose students to specific issues related to delivering tiered interventions in schools including fidelity, adaptation, cultural competence, and the integration of the best available research with clinical expertise in the context of student characteristics, culture, and preferences.
Prerequisites: 18:820:502, 503, 504, and 635; 18:826:605, 606.

18:826:605,606 Advanced Group Supervision in School Psychology ***(3,3)***
Provides for personal and professional growth and development through small-group supervision by faculty and peer group. Focuses on the integration of coursework with the professional, ethical, and legal issues encountered in school practicum placements.
Required of all school psychology students for two years, starting with the second year.

18:826:609 ***Learning and Academic Interventions: Research to Practice (3)***
Provides students with a comprehensive theoretical and research foundation in human learning as well as the key characteristics and features of common academic intervention strategies targeting academic skills (e.g., reading, writing, math) and academic behaviors (e.g., studying, homework completion). A self-regulated theoretical framework will also be used to help conceptualize the development and implementation of academic interventions in school contexts.

18:826:612 ***Consultation Methods (3)***
Overview of theory, research, and practice of school-based consultation methods. Indirect models of delivering educational and mental health services by consultants in schools and school-related settings serving diverse populations and communities. Consultants learn research-based, data-driven methods for improving consultee(s)

capacities (e.g., educators, parents) that lead to improved client(s) outcomes. Behavioral consultation, conjoint behavioral consultation, mental health consultation, and instructional consultation approaches addressed. Course requires a school-based consultation project.

18:826:616 ***Program Evaluation (3)***
This course aims to develop students' knowledge, skills, and abilities that contribute to effective evaluation of programs that add value to individuals and groups in organizations (profit, nonprofit) and related community settings. Students will learn a range of evaluation models, methods, and approaches used in the field. They will develop an in-depth understanding of program theory and program process while considering how to be culturally responsive. Students will develop skills in communicating findings, selecting measures, and analyzing quantitative and qualitative program data. Students will hone their abilities to communicate using formal, professional writing and presentations.
Required of all third-year school psychology students. Prerequisites: Prior courses in statistics. Students are not permitted to audit this course.

18:826:630 ***Cognitive Assessment (3)***
The purpose of this course is to attain knowledge on cognitive assessment and skills in administering measures of cognitive abilities. This course integrates administration and scoring of major cognitive assessment instruments in the context of theory, research, and best practices. Students will be introduced to interpretation of cognitive assessment results, as well as communication of findings through written reports. The course will reinforce basic issues of measurement such as reliability and validity, address the assessment of persons representing various stages of development, and introduce a wide variety of measures. Issues of assessing children and adolescents from a diverse set of populations are integrated throughout the course in addition to specified lectures. Upon completion, students will be qualified to administer the measures on which they have been trained, and to monitor themselves in obtaining competence to administer, score, and interpret a wide range of cognitive assessment measures.
Required for first-year school psychology students.

18:826:631,632 ***Internship in School Psychology (3,3)***
Supervised experience of 1,500 hours (departmental requirement) or 1,750 hours (predoctoral licensing requirement) in a setting determined by the internship coordinator and the student.
Required of all students in the school psychology program.

GSAPP Courses (GSAPP)

Organizational Psychology 829

Organizational Psychology 829

18:829:511 ***Organizational Psychology: Science & Practice (3)***
Reviews basic research and theory concerning work and careers; examines various strategies for improving the quality of life at work and promoting optimal career development.

18:829:512 ***Introduction to Personnel & Work Psychology (3)***
This course provides an in-depth exploration of psychological principles and practices applied to workplace settings as they relate to personnel and work psychology. Students will gain a comprehensive understanding of how

psychological theories and research inform various aspects of organizational behavior, human resource management, and employee performance. Emphasis will be on the application of research and theory relevant to the practice of organizational psychology in applied settings.

18:829:514 ***Introduction to Organization Development & Change (3)***
Focusing on psychological and systems-based frameworks, this course provides an introduction to the field of Organizational Development and Change (OD&C), equipping students with fundamental knowledge and skills to enter/contract; diagnose organizational pain points; and design, implement, and evaluate evidence-based interventions that facilitate transformational change at multiple levels of organizational functioning, including interpersonal, group, intergroup, and systemic.

18:829:520 ***Foundations of Qualitative Research for the Organizational Psychologist - Organizations (3)***
This course serves as an introduction to the principles and applied practices of qualitative research within the context of organizational psychology and equips students to conduct rigorous qualitative research in organizational settings. Students will explore relevant contemporary research and engage in hands-on activities and practical exercises to develop their qualitative research skills.

18:829:521 ***Interviewing and Observation - Organizations (3)***
Skills of observation and interviewing within an organizational context. How phenomena of organizational life can influence how procedures are carried out and kinds of information they provide. Introduces nature of fieldwork, theory of role relations in organizations, and how to work with one's subjective experiences in fieldwork.

18:829:525 ***Experiential Group Dynamics (3)***
Group and intergroup dynamics using a combination of experiential and didactic methods. Experiential sessions focus on the "here-and-now" experiences of people in the room. As events unfold, attention may turn to the dynamics of the several groups represented in the course. Didactic sessions provide opportunities to step back from the here-and-now events and reflect upon what has occurred.

18:829:531 ***Cross-Cultural Organizational Psychology (3)***
This course examines topics in organizational psychology from a cross-cultural lens, focusing on portability of Western-based theories and practices to other cultures. Topics include cultural values, methodological equivalences, intercultural training, group processes, organizational justice, work-family issues, leadership, negotiations, acculturation and expatriation/repatriation. Co-requisite: 18:829:548 or permission from instructor.

18:829:531 ***Organizational Diagnosis and Cultural Dynamics (3)***
Theory and method of group relations and organizational diagnosis. Combination of lectures, discussions, classroom exercises, and a field project for those who choose it.
Prerequisite: 18:829:525.

18:829:536 ***Ethics in Organizational Psychology/Organizational Development Research and consulting (3)***
The course will reinforce Industrial, Work, and Organizational Psychology (IWOP) values and ethical principles and standards of the American Psychological Association, as well as the Human Systems Development Consortium. Students will apply ethical judgments in organizational consulting practice, identifying potential ethical issues, proposing solutions to simulated or actual challenges faced by organizations, and demonstrate abilities to navigate ambiguous organizational situations. Prerequisites: Intro to Personnel & Work Psychology, Cross-Cultural Organizational Psychology, Applied Systems Theory & Analysis, or permission from instructor.

18:829:542 ***Occupational stress and Health psychology (3)***
This course surveys the organizational environment that affects cognitive processes and subsequent physiological, psychological and behavioral responses affecting individual and organizational performance. Topics include the role of the person, such as biology and personality; the role of the organization, such as workplace climate and work roles; and different types of individual and organizational stress management interventions that contribute to individuals' health & well-being.
Prerequisite: 18:829:548.

18:829:559 ***Theory and Practice of Training & Development (3)***
Experiential learning of the issues and problems that confront adults in training groups: issues of trust, resistance to change, power and authority, norms and practices, cultural diversity, and conflict management. Design and facilitation of adult training modules for corporate employees, health service workers, educators, and parents. Focuses on the individual as a unit of learning.

18:829:565 ***Executive Coaching: Organizational Interventions at the Individual Level (3)***
Introduction to a disciplined, theory-based approach to executive coaching emphasizing multilevel forces impacting individual behavior. Student will apply theory and methods learned through readings, class discussion, and case study analysis to a supervised executive coaching project.
Prerequisites: 18:829:521 and 18:829:531.

18:829:604 ***Psychology of Group Behavior & Decision Making (3)***
Examines the group dynamics of organizations using both historical and contemporary materials. Understanding of organizations as entities through an understanding of their group dynamics rooted in authority, function, gender, race and ethnicity, and generation. Investigates the balance between personality and group representational forces in accounting for behavior of leaders.

18:829:605,606 ***Supervision in Organizational Psychology (3,3)***
Provides personal and professional development through group supervision; practicum experiences analyzed to facilitate integration of thought and action.

18:829:610 ***Proseminar on Theories in Organizational Psychology: A Comparative, Case-Based Approach (3)***
Provides the opportunity to learn a variety of theoretical models of assessment and intervention in organizational psychology (OP). A distinctive aspect of the course will be the presentations of intensive case studies by outside instructors. The cases will viewed from multiple theoretical perspectives in part as a way of learning about those perspectives. The focus will be a systematic, comparative approach of how different theories play out in actual organizational cases. The instructors will be drawn from both GSAPP and the resources of the larger OP community outside GSAPP such as non-GSAPP OP faculty at Rutgers--adding to the span of students' exposures to OP theories and practice. A coordinating faculty instructor will be a resource in all classes and will provide continuity throughout the class.

18:829:616 ***Organizational systems theory and analysis (3)***
Covers family systems theory as a new paradigm for conceptualizing human dilemmas; the major theoreticians and schools in the family therapy field; core concepts and their relevance for application; basic interventions, implementation of change, and the main attitudes of a family therapist exemplified through a variety of systematic experiences; formulation of a psychosocial assessment; and the psychologist's use of self. A number of different schools of family therapy are explored, including structural, Bowenian, strategic, behavioral, narrative, and multisystemic.

18:829:617 ***Current Topics in Organizational Psychology: Emotional Intelligence at Work (3)***
Reviews research on the link between social and emotional competence and work performance. Considers actual programs and strategies designed to enhance these competencies, and the empirical research concerning their effectiveness. Addresses implementation, dissemination, and evaluation issues.

18:829:618 ***Current Topics in Organizational Psychology (3)***
Special topics on various aspects of organizational psychology. Topics change from year to year based on student and faculty interests as well as recent developments in the field.

18:829:631,632 ***Internship in Organizational Psychology (3,3)***
At least 10 months of supervised experience in a setting determined by the program and the student. Required for all organizational psychology students. Student must have completed all required practicum credits, all required courses, and passed the written comprehensive exams.

18:829:635,636 ***Part-Time Internship in Organizational Psychology (3,3)***
Two-to-three days per week of supervised experience in a setting determined by the program and the student. Students must have completed all required practicum credits, all required courses, and passed the written comprehensive exams.

18:829:682 ***Judgment and Decision-Making (3)***
Explores theory and research on judgment and decision-making, including decision theory and judgmental heuristics. Includes research from cognitive, social, and clinical psychology as well as organizational behavior and management.

GSAPP Courses (GSAPP)

Applied Psychology 844

Applied Psychology 844

18:844:501 ***Practicum Group Supervision (3)***
Practica are defined as field practice (either through internal practica housed at GSAPP or external practica at other sites) pursued under the intensive on-site supervision of practitioner supervisors. The practicum experience will vary according to the student's training level, the coursework taken, and the experiences available at the particular site. Practica are designed to provide you with the opportunity to practice what has been and is being learned through coursework, as well as an opportunity to learn directly from experienced field supervisors. Students can learn about possible clinical practica through the annual Practicum Fair.
Clinical and school students are approved for these positions by the GSAPP coordinator of practicum placements.

18:844:502 ***Independent Study - Capstone Experience (0)***
Independent study is a good opportunity for students to understand the research process from the ground up and experience firsthand what goes into the process of collecting data and writing a paper. While the course is through arrangement with individually faculty members and what is required may differ between the faculty, most faculty require working a set number of hours in a laboratory, attending laboratory meetings, and writing a final paper for the course.

18:844:503 ***Honors Capstone (3)***
The electronic portfolio is an opportunity for graduate students in the applied psychology program to highlight their accomplishments over the course of their studies. Graduate students compile items from their studies illustrating successful completion of the master of applied psychology degree program. Examples of items include the curriculum vitae (CV), work samples, advanced certification trainings, and other files that pertain to the field of applied psychology outlined by a program rubric.

18:844:505 ***Professional Practicum Placement I (3)***
Practica are defined as field-based training experiences, conducted either through internal placements at GSAPP or external sites, under the close supervision of qualified practitioner supervisors. These experiences are tailored to each student's level of training, completed coursework, and the opportunities available at the practicum site. The primary goal of practica is to bridge academic learning with real-world application. Students gain hands-on experience by applying concepts and skills learned in the classroom, while also benefiting from direct mentorship by experienced field professionals. Information about available clinical practica is shared on the Applied Canvas page and meetings with the practicum coordinator are encouraged.
Clinical and school students are approved for these positions by the GSAPP coordinator of practicum placements.

18:844:506 ***Statistical Methods and Research Design (3)***
The primary goal of this course is to provide students with an overview of the statistical methods and designs commonly utilized in psychological research to become a good consumer and producer of scientific research products. To this end, first, this course will expose students to various research designs and their logics, such as experimental, quasi-experimental, observational, and longitudinal study designs. Students will also learn how to utilize various techniques of data analysis, including multiple and logistic regression analyses. This course will include lectures and computer lab sessions.

18:844:507 ***Biological Bases of Human Behavior (3)***
In today's health care climate, psychologists are often required to serve beside medical personnel in integrated health care teams for assessment and treatment of complex cases. This course will prepare students for these interactions by providing them with a comprehensive overview of key aspects of biology that explain or otherwise interface with normal and/or dysfunctional behavior. Scientific constructs, techniques, and theories will be examined in depth. Biological topics include the peripheral and central nervous system, the neurobiological systems that underlie sensation, motor behavior, emotion, cognition, self-other representation, and social behavior. We will also integrate understanding of altered behavioral processes of brain-damaged and psychiatric patients with knowledge of basic neuronal and neurobiological processed. Each week students will be required to read the textbook chapters, case studies, and watch a video dealing with a specific topic in the biological basis of behavior.

18:844:508 ***Psychopathology (3)***
This course is designed to introduce students to the diagnosis, causal factors, and treatments of the major psychological disorders in childhood, adolescence, and adulthood. Historical and contemporary conceptions of abnormal behavior will be explored as well as controversies within the field regarding the classification, assessment, and treatment of psychological disorders. Behavioral, cognitive, interpersonal, sociocultural, genetic, and biological/neuroscience aspects of psychopathology will be covered as appropriate. The course will emphasize descriptive psychopathology (e.g., phenomenology, epidemiology, natural course of disorder). Issues of etiology, treatment, access to mental health services, and cultural issues to be considered will also be covered.

18:844:510 ***Special Topics Seminar: Civic and Global Citizenship, Social Justice, and Cultural Diversity (3)***
This course consists of graduate-level material to prepare students to address issues related to multiculturalism and various issues of diversity. As the material within the topics of civic and global citizenship, social justice, and cultural diversity are constantly changing, the course material is variable depending on the political climate, the instructor, and other social justice issues within the American and global cultures. Research related to microagressions, racism, prejudice, social justice, and issues of diversity will form the framework of the course.

18:844:511 ***Ethics and Professional Development Seminar (3)***
This course will provide an overview of professional psychology education and practice, including historical ethical issues and court cases as well as current practical applications of the American Psychological Association (APA) ethics code.

18:844:512 ***Public Policy in Mental Health (3)***
This course examines the federal and state policies affecting mental health and substance use education, funding, reimbursement, and treatment in a variety of settings. The course will focus on understanding U.S. mental health and substance use policies, including the organization, delivery, and financing of service systems and the roles of professionals and the public and private sectors. Situations that impact practitioners, patient access and quality of care, and behavioral health care delivery will be carefully examined. An emphasis will be on learning skills for critical analysis of contemporary policy issues and practitioner dilemmas, especially policies that aim to: expand access to care, reduce behavioral health disparities, improve provider alignment to patient need, encourage service delivery reform, increase community services, and reduce reinstitutionalization. Students will be trained in gathering and evaluating information that can inform their perspective on policy and services.

18:844:513 ***Introduction to Autism Spectrum Disorders (3)***
This course will provide a broad overview of current research and practices related to autism spectrum disorder (ASD). Topic areas span a wide range of professional disciplines (e.g., psychology, psychiatry, neuroscience, genetics). As is the case with many introductory courses, the goal is to expose students to a breadth of information, rather than go into any one area in great depth. Readings and discussions will draw from a range of perspectives (research, professional practice, family members and self-advocates, media). Students are expected to gain knowledge about research findings and best practices. However, assignments will emphasize application of that knowledge to inform critical thinking and evaluation of new information (e.g., case studies, research articles, media coverage, etc.), rather than regurgitation of facts.

18:844:514 ***Autism in Adulthood (3)***
This course will focus on increasing students understanding of autism spectrum disorder (ASD) in adulthood. There will be a focus on understanding ASD in the context of ongoing development from transition age/young adulthood through later life. Topics will likely include: presentation of ASD symptoms, the unique challenges faced by autistic adults, strengths and adaptability, evidence-based and emerging practices for supporting adults, and quality of life in the context of aging. The course will encourage interdisciplinary perspectives, drawing from literature from fields such as psychology, social work, public health, and neuroscience.

18:844:517 ***Applied Behavior Analysis and Autism (3)***
Through weekly reading assignments, group discussions, and brief lectures, students will learn the ABA-based principles and techniques currently employed to help individuals with autism spectrum disorder (ASD) acquire

functional language, appropriate social behavior, and general academic and living skills, as well as decrease problematic behaviors. Students will have the option to participate in the coursework for Registered Behavioral Technician (RBT) certification.

18:844:524 ***Addiction and Evidence-Based Prevention/Intervention Techniques (3)***
This is a master's-level course designed to introduce students to substance use and its societal impact as well as research and treatment designed to address these issues in both larger populations (college/community level) and individual clinical settings. The course uses a combination of lecture, discussion, peer-reviewed journal reading and critique, and the learning/application of clinical skills. Emphasis will be placed on epidemiology of drugs use, substance use disorders, etiology of substance use disorders, and intervention/prevention efforts.

18:844:525 ***Social Psychology & Health Behavior***
This course focuses on social psychological applications to health risk behaviors and addictive behaviors. Topics include social influences, motivations, identity, emotion regulation, and other topics based on students' interests. The course is a combination of discussion, peer reviewed journal reading and critique, and the learning/application of social psychology to a health behavior of interest.

18:844:526 ***Professional Development***
This course focuses on professional development in applied psychology. Topics include research in clinical, social, health, school, I/O, ABA, cognitive, and developmental psychology. Furthermore, the course will also focus on the discussion and development of professional materials (e.g., CV, cover letters, personal statements) that students can use to apply to either jobs or advanced graduate education.

18:844:527 Foundations in Psychotherapy (3)
This course introduces students to the major psychological theories (behavioral, cognitive behavioral, cross cultural, energy, evolutionary, humanistic/existential, positive psychology, psychodynamic, systems). By the end of this course, students should be able to understand, recognize and describe the different theories and apply them to beginning clinical practice. Exposure to psychological theories of practice is necessary for students providing clinical practice on practicum, for entry level positions in mental health agencies, and to build a foundation of study for students applying for doctoral programs

18:844:617 ***Assessment and Intervention in Sport Psychology (3)***
The purpose of this course is to assist your development in areas considered relevant to professional sports psychology practice. That is, you will be considered in your role as a doctoral student in professional psychology at GSAPP, or as a Ph.D. student in the Department of Psychology at Rutgers University, or as a student or postdoc in another setting, or as a psychologist already engaged in the practice of psychology. Through the materials that comprise this syllabus, you will learn about the process of assessment in sports psychology as well as assessment in emerging, related areas such as the performing arts. More specifically, you will learn how to use assessment information obtained on athletes, other performers, and teams as a basis for designing customized and potentially worthwhile interventions with these target populations, as well as for larger organizational entities that are associated with sports and with performance, such as theater ensembles.

18:844:618 ***Sports Psychology: Theory, Research, and Practice (3)***
The course will provide you with opportunities to develop a base of information about sports psychology---its predominant theoretical and empirical bases and about the practice of sports psychology. In addition, the course content may refine your thinking about whether, and to what extent, you want to pursue additional education and training in sports psychology.

18:844:680 ***Foundations in Alcohol Studies: Biology, Psychology, and Sociology (3)***
Foundations in Alcohol Studies introduces the master of applied psychology (M.A.P.) student to lawful aspects of physical and mental functioning with relevance to alcohol use and misuse, and to associated forms of mental disorder and social distress. This course is required for the Alcohol Certification component of the M.A.P. program.

GSAPP Courses (GSAPP)

Certification Courses - Applied Behavior Analysis (ABA)

Certification Courses - Applied Behavior Analysis (ABA)

The courses listed below are certification courses intended for non-Graduate School of Applied and Professional Psychology (GSAPP) students, although GSAPP students may elect to take one or more of these courses.

18:820:512 ***Introduction to Analysis and Single-Case Design (3)***
Introduces the student to the process of analysis using baseline logic and learning how it applies to single-case methodology. Provides an overview of behavior measurement and recording, visual analysis, and graphing. Basic single-case research designs will be discussed, including general characteristics, strengths, and considerations. General issues regarding internal and external validity will be explored, as well as ethical considerations in research design and implementation. Students will practice applying the principles of research design and ethics to the interpretation of research literature.

18:820:513 ***Basic Principles of Behavior Analysis (3)***
Presents the student with an introduction to the basic principles and historical overview of applied behavior analysis, learning theory, and the fundamental principles of science and behavior. Students will learn to distinguish between respondent and operant models of behavior and conditions. Concepts and principles of behavior including reinforcement, punishment, stimulus control, verbal behavior, and motivational operations will be defined and discussed in the context of behavioral learning theory in order to establish a theoretical foundation for applications in advanced-level courses.

18:820:514 ***Applications of Behavior Analytic Principles: Changing Behavior (3)***
Presents information on the applications of behavior analytic principles in changing behavior. Specifically, students will learn to select behavior targets for change, to establish and strengthen behavior, and to weaken behavior. Strategies for strengthening behaviors include a review of reinforcement, prompting, commonly used instructional approaches (e.g., DTI, incidental teaching), delayed reinforcement systems (e.g., token systems, contracts), and self-management approaches. Strategies covered for weakening behavior include extinction, differential reinforcement procedures, positive punishment procedures (e.g., aversive stimuli, overcorrection), and negative punishment procedures (e.g., time-out, response cost). Significant time is spent on discussing the ethics of behavior reduction and the negative side effects of the use of punishment procedures. The application of these principles in changing behavior will be illustrated through reviewing a variety of books and articles, which highlight the breadth, power, and ethical considerations of applied behavior analysis (ABA) in this context.
Prerequisites: 18:820:512, 18:820:513.

18:820:516 ***Applications of Behavior Analytic Principles: Functional Assessment and Treatment Development (3)***
A sampling of state-of-the-art teaching strategies for children with autism and related disorders. Specifically, the student will develop a framework for conceptualizing verbal behavior and gain familiarity with the application

of this framework to the education of children with autism and related disorders. Furthermore, the student will develop an understanding of additional teaching strategies, such as precision teaching, rate building, and activity schedules. Other topics addressed include effective strategies for staff training and for working with families, increasing social skills in learners with acute stress disorders (ASDs), and collaborating with other disciplines. The goal of this course is to develop an understanding of the unique applications of a variety of applied behavior analysis (ABA) instructional techniques for learners with autism. The students should be able to conceptualize a comprehensive ABA program, and be able to select specific methodologies to address specific skill deficits.
Prerequisites: 18:820:512, 18:820:513.

18:820:517 ***Advanced Topics in ABA: Teaching Children with Autism and Related Disorders (3)***
Focuses on understanding the functions of challenging behavior, becoming familiar with various methods of determining the functions of behaviors, and developing behavior intervention plans that match the functions of the behaviors. The student will learn how to observe, collect data, and interpret data in the assessment of challenging behaviors. Specifically, students will learn the methods for obtaining descriptive data and the procedures for conducting systematic manipulations, such as functional analyses (FA). Variations of FA procedures will be described, including brief FA and procedures that are easier to implement in natural settings. Specific single-subject experimental designs will be reviewed in the context of FA. The ethical considerations inherent in behavioral assessment, treatment, and research will be reviewed. A variety of articles describing state-of-the-art methods for FA will be assigned and discussed.
Prerequisites: 18:820:512, 18:820:513, 18:820:814.

18:820:521 ***Ethics for Behavior Analysis (3)***
This course will familiarize the student with ethical issues and responsibilities of special educators and behavior analysts in the fields of education and mental health. Informed consent, due process, protection of confidentiality, and selection of least intrusive, least restrictive behavior change procedures will be presented and discussed within the context of case method. Ethical decision-making processes will be emphasized, and the relationship between ethics and law will be explored.
Prerequisites: 18:820:512, 18:820:513.

18:820:522 Personnel Supervision and Management in Applied Behavior Analysis (3)
This course will offer an introduction to the application of behavior analytic concepts and principles to problems of human behavior in complex organizations such as businesses, human service agencies, industries, and governments. Students will learn the basics of performance management, behavioral systems analysis, and supervision. Students will practice applying the concepts discussed in class through a semester-long OBM project.
Prerequisites: 18:820:512, 18:820:513.

About the School (MGSA)

ABOUT THE SCHOOL

Established in 1976, Mason Gross School of the Arts at Rutgers, The State University of New Jersey, comprises a vibrant community of nearly 1,200 creators--dancers, filmmakers, musicians, theater artists, visual artists, and designers unafraid to take risks as they collaborate with our renowned faculty of professional working artists. Mason Gross graduates emerge, not merely with a degree, but with a commitment to making innovative and purposeful contributions to the wider community--onstage, backstage, in the gallery, the classroom, the studio, and

beyond. Mason Gross School of the Arts nurtures **curiosity**, **skill**, **critical thought**, and **innovation** in creating art and scholarship that touches hearts, challenges minds, imparts joy, and awakens a sense of shared humanity. We uphold the highest standards of inclusive excellence in artistry, pedagogy, and scholarship while affirming the role of the arts in shaping the world around us.

Mason Gross offers undergraduate and graduate degrees in art & design, dance, filmmaking, music, and theater, as well as courses and programs in the arts for the wider university and public programming for the community at large. Our faculty are leading the way in creating challenging, rewarding curricula that celebrate the diversity of the arts and prepare students for a wide range of career paths.

Situated just 45 minutes from New York City and a little over an hour from Philadelphia, Mason Gross serves as the flagship public arts conservatory at Rutgers, a Big Ten research university serving more than 66,000 students. Rutgers is the nation's eighth-oldest institution of higher learning and a member of the prestigious Association of American Universities. Students at Mason Gross benefit from our distinctive identity as an arts conservatory within a leading public research university in a richly diverse region with a robust arts scene. Our students have access to major research collections in the Rutgers University Libraries and a vast array of extra- and co-curricular activities.

Courses in the arts are taught on the New Brunswick and Piscataway campuses and online.

Admission (MGSA)

ADMISSION

All applicants to Mason Gross School of the Arts must complete two applications: the Rutgers University application AND the Mason Gross talent assessment. The talent assessment collects applicant talent through audition, interview, or portfolio. An additional submission fee, separate from the Rutgers University application fee, is required on the Mason Gross talent assessment. Mason Gross applicants are reviewed by faculty members for both admission and merit scholarship based on the Mason Gross talent assessment. Applicants receive information on how to access the Mason Gross talent assessment after the Rutgers University application is submitted. For deadlines, submission fees, and audition/portfolio requirements, visit admissions.

Regardless of U.S. residency status, an English proficiency examination is required of all applicants who did not complete an undergraduate degree in the U.S. or in a country where English is the principal language. Even if the applicant holds a master's-level degree from the U.S. or from a country where English is the principal language, the applicant is required to submit a passing English proficiency exam. To review acceptable exams and minimum scores, visit: Graduate and Professional Admissions.

For any questions about the application and admissions process, contact admissions@mgsa.rutgers.edu.

Academic Policies and Procedures (MGSA)

ACADEMIC POLICIES AND PROCEDURES

Note: See the **University Policies and Procedures** section in the Rutgers Main catalog for university-wide academic policies and procedures.

Registration and Course Information

Class Schedule and Hours

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Registration and Course Information (MGSA)

REGISTRATION AND COURSE INFORMATION

Registration for Newly Admitted Students

Registration for Newly Admitted Students

Newly admitted students will receive registration materials electronically before the start of the fall and spring semesters. Official registration and billing forms should be received well before the first day of classes.

You will receive admission information via U.S. mail within several days after you are formally admitted. The admission information contains your formal certificate of admission, and in some cases, other relevant information for admitted students. In most cases, you will also receive additional information separately from the graduate school and program to which you have been admitted.

Newly admitted students who fail to receive these materials at least two weeks before the start of the semester of their admission should contact the graduate admissions office immediately. Contact options for each campus can be found at Contact Us.

Registration for Continuing Students

Registration for Continuing Students

Registration for continuing students takes place well in advance of each semester, usually through the online registration system. Students should check their home, departmental, and Rutgers email account mailboxes for official communications. It is the student's responsibility to contact the registrar to request registration information if he or she fails to receive it by the third week in March for the fall semester and the third week in October for the spring semester. Registration information and the New Brunswick Registrar contact link can be found at the Office of the Registrar.

Continous Registration

Continuous Registration

All students in degree programs must maintain their status in the school by registering each fall and spring semester in coursework, research, dissertation study, or Matriculation Continued (see Matriculation Continued). Students who fail to maintain continuous registration in coursework, research, or Matriculation Continued must apply for reinstatement if they are to continue in good standing. Such students are charged a reinstatement fee for each semester in which they failed to register. The current fee for Mason Gross School of the Arts is $750 per semester missed with a cap of $1500.

Matriculation Continued

Matriculation Continued

Graduate students enrolled in MGSA degree programs who have completed all credit-bearing curricular requirements may register for matriculation continued in order to maintain continuous enrollment as well as retain access to university facilities. Students who register for matriculation continued are permitted to progress on non-credit degree requirements (e.g. exams, recitals, etc.).

Students are permitted to register for matriculation continued only after they have satisfied all credit-bearing curricular requirements. In music, D.M.A. students who have not completed the Lecture-Recital requirement may register for matriculation continued only if their Lecture-Recital paper has been fully approved by their advisor before the start of the semester in question.

No more than two semesters of matriculation continued are permitted for each student. If these two semesters are exhausted, students must take a formal leave of absence or register for at least one credit. There will be no exceptions to this policy. Late registration for Matriculation Continued is not allowed beyond the second week of the semester. After this time, the student is required to apply for reinstatement, depending on degree status, and if approved, will have to pay a reinstatement fee based on the number of semesters missed (see Continous Registration). Students wishing to drop all courses and add Matriculation Continued must do so before the first day of the semester.

While matriculation continued is 0-credit and carries no tuition costs, students who register for matriculation continued must pay registration fees as established by the university and the school.

If a student has completed their coursework and intends to progress on degree requirements, but has already exhausted their two semesters of matriculation continued, they must register for one credit of Independent Study to maintain good standing in their program. Semesters of Matriculation Continued registration count in the time limit allowed for degree completion.

Students on F-1 visas may not register for matriculation continued. If there is a medical concern or other issue, students on F-1 visas must speak with their graduate adviser/director and Rutgers Global. Students on temporary visas who interrupt their studies must in most cases leave the United States during such periods; students in this position are strongly advised to consult with Rutgers Global at the earliest opportunity.

Registration and Course Information (MGSA)

Reinstatement

Reinstatement

Students who have interrupted their graduate registration without completing their degree program and who failed to register for Matriculation Continued must apply for reinstatement to resume their studies. They may be required to reaudition or submit a current artistic portfolio, depending on the requirements of their department. Under the reinstatement process, students must pay a reinstatement fee for each semester in which they were not enrolled and fill out the appropriate reinstatement forms. These forms, which are available online or from the Office of the Dean, require the signature of the graduate program director or adviser and Assistant Dean for Advising & Student Success. The current fee for Mason Gross School of the Arts is $750 per semester missed with a cap of $1500.

Registration and Course Information (MGSA)

Summer Registration

Summer Registration

The requirement of the Mason Gross School of the Arts that its students remain in continuous registration from the time they are admitted until they earn their degrees applies only to the spring and fall semesters, not Summer Session. Information about Summer Session is available at the Office of Summer & Winter Sessions, 3 Rutgers Plaza New Brunswick, NJ 08901; the registrar's office; or online at Summer Session.

Registration and Course Information (MGSA)

Change of Registration and Withdrawal

Change of Registration and Withdrawal

After the second week of classes, the only routinely permissible changes of registration are withdrawals from individual courses or withdrawal from all courses. Both procedures are allowed without academic penalty until the end of the eighth week, and may be accomplished through WebReg or by a form that is available on the ScarletHub. The date on which the registrar receives notification of withdrawal from the student governs the academic and financial consequences of the withdrawal. Detailed information can be found in the University Withdrawal Process page. A student who stops attending a course without notifying the registrar will receive a grade of F in that course. A student who withdraws from courses may receive a partial refund according to the rules described on the Student Accounting website.

Registration and Course Information (MGSA)

Late Registration

Late Registration

Arrangements with the cashier regarding payment of tuition and fees are part of the registration process, and registration is a prerequisite to class attendance. Continuing students who fail to register during the advance registration period may do so only during scheduled late registration periods and not later than the seventh calendar day following the start of the semester. A fee must be prepaid for any late registration submitted after the published date.

Registration and Course Information (MGSA)

Registration and Bill Payment

Registration and Bill Payment

All students who register on time should receive a term bill including instructions for payment. All students, regardless of method of payment, must contact the cashier in accordance with those instructions or their registration will be canceled. These procedures for registration and bill payment must be completed in order for a student to be enrolled officially in courses at the university.

Registration and Course Information (MGSA)

Intercollege Registration

Intercollege Registration

A student enrolled in the Mason Gross School of the Arts may take courses offered by other divisions of the university. However, the student must first obtain the approval of their graduate program director or adviser. In addition, other approvals may be required, for example, from the department or program offering the course that the student intends to take.

Registration and Course Information (MGSA)

Graduate Enrollment in Undergraduate Courses

Graduate Enrollment in Undergraduate Courses

Any Mason Gross course numbered 500 or above is designed for graduate students and normally carries credit toward one of the Mason Gross graduate degrees. Certain advanced undergraduate courses numbered in the 300s and 400s also may be approved for a given graduate student, either as a regular part of his or her graduate program or to remedy a deficiency in preparation. When a matriculated graduate student is permitted or requested to enroll in a course numbered below 500, explicit approval by the student's adviser is required, and the credit prefix E, G, or N must appear on the transcript. The definitions for these credit prefixes are listed below:

E. Course excluded from credit toward a degree. The student must complete all coursework, including the final exam.

G. An undergraduate course for which credit has been approved toward the degree program.

N. Course is taken not-for-credit; no examination; final grade of S (satisfactory) or U (unsatisfactory) assigned.

Registration and Course Information (MGSA)

Courses Taken Not-for-Credit (Official Audit)

Courses Taken Not-for-Credit (Official Audit)

A student may enroll in a course without receiving academic credit if (1) space is available, (2) the instructor has approved the audit, and (3) the graduate program director or adviser has given advance approval. At registration, an *N* is placed in the credit prefix column on the course-request card. All course requirements except the final examination must be completed. The student is graded S or U (satisfactory or unsatisfactory), and the course and grade are entered on the student's permanent record, but no credit is given toward a degree for the course.

Registration and Course Information (MGSA)

Auditing Courses Without Registration

Auditing Courses Without Registration

Upon obtaining permission of the instructor of the course and subject to the availability of space, full-time students of the school may audit courses without registration. It is understood that no academic credit is earned in this manner. No official record is kept of courses audited. At Mason Gross School of the Arts, auditing studio courses is not typically permitted.

Registration and Course Information (MGSA)

Transfer Credit

Transfer Credit

Approval of transfer credit is determined by each department. Typically, transfer-of-credit requests may be considered if the following items are submitted to the Graduate Director or Adviser to which the student is assigned.

- Official transcript from the institution from which the credit transfer is requested
- Materials from the original courses being transferred, including, as possible, syllabi, assignments, course materials, etc.

Additional transfer credit requirements can be found in department and degree handbooks and through consultation with an adviser or program director.

Registration and Course Information (MGSA)

Full-Time and Part-Time Students

Full-Time and Part-Time Students

For statistical, billing, and veteran-certification purposes, a full-time student is defined as one who is taking at least 9 credits per semester, depending on departmental requirements. A part-time student is one taking fewer than 9 credits per semester. All courses, including those taken not-for-credit, are counted in computing credits taken. Under some circumstances, students taking part-time credit loads may apply for consideration as full-time; this option must be discussed and approved by the individual Graduate Director or Adviser.

Registration and Course Information (MGSA)

Time Limit for the Degree

Time Limit for the Degree

It is possible to complete all coursework and requirements for the master of fine arts, master of music, and doctor of musical arts degrees in three years (six semesters) of continuous registration and coursework. The time limit for completion of the master of fine arts degree at the Mason Gross School of the Arts is five years (10 semesters) for theater arts and four years (eight semesters) for art & design. The master of music degree must be completed in four years (eight semesters). Candidates for the doctor of musical arts and artist diploma have a maximum of five years (ten semesters) from the date of admission to complete that degree. Summer Session is not included in these counts.

Registration and Course Information (MGSA)

Maximum Credit Load

Maximum Credit Load

The maximum credit load is usually not in excess of 18 credits. Students holding teaching assistantships must register their appointments as E credits (no credit earned toward the degree, and no grade computed in the cumulative grade-point average).

Registration and Course Information (MGSA)

Rutgers-Princeton Cooperative Exchange Program

Rutgers–Princeton Cooperative Exchange Program

Rutgers and Princeton Universities have had an exchange program since 1964. This informal program does not require admission to or registration at the host institution, and no funds are exchanged between the two universities. The student pays tuition only at his or her home institution. The policies of this program stipulate

that (1) participants must be matriculating candidates for a doctoral program; (2) exchange is limited to one or two graduate courses per semester per student; and (3) the courses must be part of the student's degree program and unavailable at the home institution. To participate, a Rutgers student must request permission from the graduate director or adviser and must register for 16:001:816 Princeton Exchange (BA) (normally 3 credits). In addition, a student must have a form (obtained from the Rutgers graduate registrar) signed by the graduate program, dean, and Princeton course instructor. This form is then submitted to the dean of the Graduate School, Princeton University. Princeton grades are assigned and are recorded on the student's record via this form.

Class Schedule and Hours (MGSA)

CLASS SCHEDULE AND HOURS

Starting and closing dates for each semester, scheduled holidays, and other important scheduling information are listed in the academic calendar at Rutgers University Academic Calendar. All class periods are 160 minutes in length, meeting once a week, unless otherwise specified. There are 15 weeks of instructional activity for each course.

Attendance

Attendance

Each instructor is required to maintain an accurate record of attendance for each of his or her classes or sections. Students are expected to be present at each meeting of their classes. Exceptions to this rule may be made in the case of illness and in such other instances as seem justified to the instructor.

University examinations will not be scheduled on Saturdays except in those courses that regularly meet on Saturday.

Absence Due to Religious Observance

Absence Due to Religious Observance

It is the policy of the university to excuse without penalty students who are absent because of religious observances and to allow the students to make up work missed because of such absence. Examinations and special, required, out-of-class activities ordinarily will not be scheduled on those days when such students may not participate in secular activities. Absences for religious obligation will not be counted for reporting purposes. A student absent from an examination because of a required religious observance will be given an opportunity to make up the examination without penalty.

Cancellation of Classes

Cancellation of Classes

It is the general policy of the university not to cancel classes because of inclement weather. For more information, see the University Policies and Procedures section.

Arrangements for makeup work are announced by individual instructors.

Grades and Records (MGSA)

GRADES AND RECORDS

In the Mason Gross School of the Arts, outstanding work is graded A, and good work is graded B. Candidates for all degrees normally are expected to earn a grade of B or better in all coursework. Each department establishes policies with regard to grades below B for candidates for master's degrees. At the doctoral level, no grade below a B may be counted toward the degree without petition to and approval from the Graduate Performance Committee. A grade of F is assigned to students who fail to earn credit in a course they complete. Students who fail to complete a course and do not withdraw their registration (either from the course or from the university) in the prescribed manner of written notification to the graduate registrar also receive an F.

Additionally, the Mason Gross School of the Arts graduate school uses the following grade symbols:

IN incomplete

S satisfactory (used in courses taken not-for-credit)

U unsatisfactory (used in courses taken not-for-credit)

W withdrawal (officially withdrew)

An instructor may assign an IN grade if he or she thinks added time is warranted to allow a student to make up work that was incomplete at the end of the semester. Excluding Summer Session, the instructor may permit a student to take as many as two additional semesters to make up incomplete coursework. Incompletes generated in a Summer Session must be made up by the end of the following spring semester. Graduate program directors may establish shorter time limits for a student to complete an IN grade.

The university grants an extension of time beyond these deadlines to make up an IN grade only in cases of specific medical or extreme hardship cases. Moreover, the extension is granted only if the student provides a written statement describing the medical condition or hardship.

When a graduate student is permitted or requested to take an undergraduate course (those courses numbered below 500), the student must get specific approval for credit from the graduate program director or adviser. Credits for these courses appear on the transcript with one of the following prefixes: G (approved for credit toward the

graduate degree), E (not approved for credit toward the graduate degree), or N (official audit; no degree credit; no final exam; S or U grade). For further information on this topic, see the Registration and Course Information section of this chapter.

Grades and Records (MGSA)

Grades for Graduate Students in Undergraduate Courses

Grades for Graduate Students in Undergraduate Courses

Graduate students, in a master's degree program only, who register in undergraduate courses for graduate credit are graded according to the rules of the school or faculty offering the courses in which they are enrolled.

Grades and Records (MGSA)

Transcripts

Transcripts

Requests for official transcripts of a student's academic record should be made through the portal at Transcript/ Enrollment Certification & Term Grade Report System. At least 10 days should be allowed for processing the request.

Grades and Records (MGSA)

Holds

Holds

The privilege of registration and advance registration are barred to students who have outstanding obligations to the university. Obligations may take the form of unpaid monies, unreturned or damaged books and equipment, parking fines, other charges for which a student may become legally indebted to the university, and failure to comply with disciplinary sanctions or administrative actions.

University departments and offices may place "holds" on registration for any students with an outstanding obligation.

Grades and Records (MGSA)

Student Identification Cards

Student Identification Cards

Students must have an active role and be registered in official University schools and degree programs to be eligible to receive an RU ID. Additionally, you must have activated your NetID and uploaded your photo online. Those with multiple roles will receive an RU ID that indicates their primary relationship with the University based on the following hierarchy (employees, students, and guests). Do not alter or punch holes in your RU ID.

You must upload your photo online for your RU ID. This can be done via your enrollment pathway.

Photo requirements, restrictions, and an online photo submission tutorial can be viewed online. You will receive an email confirmation of your photo's approval status (approved or denied). Please check your official Rutgers email account, your personal email account, and your Spam/Junk folders. If your photo did not meet the requirements, please upload a new photo that does.

Most new graduate students will need to visit an ID Card Service Center to obtain their RU ID.

You can find more information and service center locations online.

Grades and Records (MGSA)

Student Complaints about Grades

Student Complaints about Grades

Students who wish to file a complaint about a course grade or a grade received for a particular piece of work in a course should first attempt to resolve the matter through discussion with the instructor. If the issue cannot be resolved satisfactorily between the student and instructor, the student may specify in writing the basis for the complaint and request a review by the director or adviser of the graduate program offering the course.

A written complaint about a grade for work completed while the course is in progress must be submitted to the program director or adviser no later than two weeks after notification of the grade. A student must submit a written complaint about a final course grade to the program director or adviser no later than four weeks after the official notification of grades. A student who wishes to appeal the decision of the graduate program must do so in writing to the Office of the Dean. Written notification of the action taken by the graduate director or adviser or the dean is sent to the student within six weeks of filing an appeal, excluding weeks in which classes are not in regular session.

Academic Standing (MGSA)

ACADEMIC STANDING

Academic Standing (MGSA)

Scholastic Standing

Scholastic Standing

Normally, candidates for graduate degrees are expected to earn a grade of B or better in all coursework.

Each student's program is monitored by the entire faculty, and their work is evaluated at the end of each semester. Only those students whose work meets approval by the faculty may proceed to the next year of the program.

Official notification of academic probation, academic warning, academic dismissal, or artistic dismissal is handled by the Mason Gross School of the Arts Scholastic Standing Committee. The committee acts on recommendations submitted by the departmental Scholastic Standing Committee.

Any student may be required to terminate their graduate studies and withdraw from the Mason Gross School of the Arts if they fail to maintain satisfactory academic or professional standards in any phase of the graduate program. Failure to maintain professional standards is regarded grounds for as artistic dismissal. Artistic dismissal is subject to review by the dean of the school.

Upholding Professional Standards

Mason Gross trains students to be professional artists. As such, students are expected to comport themselves with integrity according to the accepted standards of the profession both in their work at Mason Gross and in their outside performances and exhibitions. As has been the policy and practice of the Mason Gross School of the Arts for many years, failure to maintain professional standards is grounds for artistic dismissal whether the behavior occurs on or off campus.

Academic Standing (MGSA)

Comprehensive Examinations

Comprehensive Examinations

Comprehensive examinations are required for all students in the music program. The examinations are given twice yearly, once in each semester.

Academic Standing (MGSA)

Committees and Advisers

Committees and Advisers

If a student's program includes a performance, an exhibition, or a thesis, supervision of the student's course of study and research and the conduct of the final examination are carried out by a three-member committee. Each committee consists of members or associates of the graduate faculty of the Mason Gross School of the Arts, and all nominations to the panel must be approved by the director or adviser of the program. One member of the committee serves as its chair. If a student's program does not include a thesis, the committee is appointed shortly

before the final examination or performance. In any case, the student is encouraged to seek advice during the course of study from the graduate program director or adviser, committee chair, and professors supervising their courses.

Academic Standing (MGSA)

Submission of the Thesis

Submission of the Thesis

For a student whose program includes a thesis, the thesis must be approved by the chair of the student's committee and accepted by the other members of the panel. The final draft of the thesis should be prepared in accordance with the instructions available on the Electronic Theses and Dissertations submission website. After the thesis has been accepted by the committee, the approved document must be submitted electronically to the dean of the Mason Gross School of the Arts no later than four weeks before commencement (or no later than the announced deadline for October and January-dated diplomas).

Academic Standing (MGSA)

Graduation

Graduation

Degrees are conferred upon recommendation of the Mason Gross School of the Arts faculty. A candidate entering the final semester of their program should submit a diploma application to the graduate registrar and an application for admission to candidacy to the dean's office. This can be completed online.

Degrees at Mason Gross are conferred and diplomas are issued fall (January), spring (May), and summer (August). However, there is only one commencement ceremony held each spring. M.F.A. or M.M. students graduating in August and requiring only 6 or less credits to complete the degree requirements may participate in that year's spring ceremony. If more than 6 credits are required to complete the degree requirements, the M.F.A. or M.M. students will be eligible to participate in the following year's spring ceremony. D.M.A. students with any outstanding requirements will be ineligible to participate until the following year's spring ceremony.

Diplomas are withheld from all students having unpaid financial or library accounts or other outstanding obligations to the university.

The graduate diploma application must be completed and submitted online by the candidate. This must be done according to the deadlines on the Scarlet Hub graduation and diploma information webpage. Unless the application is filed by the appropriate date, the degree will not be conferred and graduation will be delayed.

If, after filing the application for a diploma, a candidate is unable to complete the degree requirements by the end of the semester specified, another application must be filed.

Academic Standing (MGSA)

Time Limits for Degrees

Time Limits for Degrees

The time limit for completion of the master of fine arts degree at the Mason Gross School of the Arts is five years for theater arts and four years for art and design. The master of music degree must be completed in four years. Candidates for the doctor of musical arts and artist diploma have a maximum of five years from the date of admission to complete that degree.

At no point in the program should the student allow their academic registration in the Mason Gross School of the Arts to lapse. The entire master's or doctoral program must be completed within the specified period. Under exceptional circumstances, to be initiated by the student with his or her graduate program director or adviser and the dean, this limit may be extended. Students are referred to the section of the Mason Gross catalog titled Registration and Course Information for details about the requirement for continuous registration.

Academic Standing (MGSA)

Teaching Assistantships

Teaching Assistantships

Graduate students may qualify for financial assistance from Mason Gross, as determined by departmental need, student need, and artistic/academic merit. In most cases, financial assistance is contingent upon engagement in work that contributes to the department or school. In some cases depending on eligibility, qualifications, and experience, graduate students may receive experience teaching under the supervision of a faculty mentor or appointments as part-time lecturers.

Continuation of graduate financial awards is dependent on success in the program, including a semester G.P.A. of 3.0 or better, satisfactory artistic standing, and fulfillment of the responsibilities of the work assignment. Decisions about the allocation of funds for graduate financial awards are made by the Mason Gross dean's office in consultation with the department administration.

Graduate Programs in Art and Design (MGSA)

GRADUATE PROGRAMS IN ART AND DESIGN

Degree Program: Master of Fine Arts

Chair, Department of Art & Design: Jacqueline Thaw, Associate Professor

Master of Fine Arts in Design

Director, Graduate Program in Design: Gerry Beegan, Professor

The Rutgers master of fine arts (M.F.A.) degree in design is a two-year, full-time course of study that combines creative work and critical inquiry. This program focuses on research-driven design and enables collaborations with scholars and experts throughout all fields of study at Rutgers University. Students delve deeply into the innovative

use of technology and interdisciplinary research in the creation of online and print publications, exhibitions, information, interfaces, and more. This program prepares designers for a contemporary design studio practice that contributes to the future of arts, science, humanities, and technology.

Master of Fine Arts in Visual Arts

Director, Graduate Program in Visual Arts: Jeanine Oleson, Associate Professor

The Rutgers master of fine arts (M.F.A.) degree in visual arts at Mason Gross School of the Arts was established in 1960 as the first nondisciplinary-specific fine art graduate program in the United States. Today, the two-year, full-time program continues to flourish through the rigorous cultivation of community, dialogue, experimentation, and creative thinking and making across media, approaches, and perspectives. Graduate students pursue their creative work in dialogue with each other, with faculty, and with the greater community. We are a diverse, tight-knit, and pluralistic community of artists, and our graduate students contribute to and benefit from all that our community offers. Our location, in New Brunswick, New Jersey, offers our students the space and time to concentrate and immerse themselves in their creative pursuits while only an hour away from New York City and Philadelphia.

Each semester, the school invites approximately 20 visiting artists, critics, and curators to meet with students in their studios and deliver a public lecture. Recent guests include El Arakawa, Fia Backstrom, Yevgeniya Baras, Tourmaline, Cara Benedetto, Anna Betbeze, Meriem Bennani, Trisha Donnelly, Huma Bhabha, Hannah Black, Damien Davis, Aki Sasamoto, Hugh Hayden, Sharon Hayes, Gregor Huber, Amy Yao, Tiona Nekkia McClodden, Camilo Godoy, Mika Rottenberg, Cameron Rowland, Sable Elyse Smith, Anna Shteynshleyger, A.L. Steiner, Mimi Smith, Lumi Tan, Stewart Uoo, Geo Wyeth, B. Wurtz, Carolyn Lazard, American Artist, Sanya Kantravosky, and Layga Nuna Yawar.

Members of the Faculty

Art and Design Admission

Master of Fine Arts in Design Arts Program

Master of Fine Arts in Visual Arts Program

Art and Design Graduate Courses

Members of the Art and Design Faculty (MGSA)

MEMBERS OF THE ART AND DESIGN FACULTY

For individual faculty profiles, please visit our website.

Ahmet Atif Akin (Design)

Gerry Beegan (Design)

Mark Thomas Gibson

Marc Handelman

Heather Hart

Sue Huang (Design)

Steffani Jemison

Julie Langsam

Cheon pyo Lee

Miranda Lichtenstein

Barbara Madsen

Mark McKnight

Jeanine Oleson

Hanneline Røgeberg

Jacqueline Thaw (Design)

Didier William

Chat Travieso, - Tepper Family Endowed Chair

Some of our distinguished graduate faculty who retired from the department after many years of teaching include Emma Amos, Mark Berger, Judith K. Brodsky, Mel Edwards, Lauren Ewing, Leon Golub, John L. Goodyear, Geoffrey Hendricks, Gary Kuehn, Ardele Lister, Toby MacLennan, Diane Neumaier, Raphael Ortiz, Tom Nozkowski, Martha Rosler, Joan Semmel, Peter Stroud, Patrick Strzelec, Stephen Westfall, and John Yau.

Art and Design Admission (MGSA)

ART AND DESIGN ADMISSION

M.F.A. IN VISUAL ARTS

The Master of Fine Arts (M.F.A.) degree in visual arts is a full-time, two-year program with no midyear admissions. Admission into the program requires submitting applications to both Rutgers University and the Department of Art & Design at Mason Gross School of the Arts. Each application has a separate deadline.

1. **Rutgers University Application (submitted via the University Portal)**

- An official transcript from each postsecondary institution attended. Transcripts must be sent from the institution to Rutgers' Office of Graduate and Professional Admissions.
- Three letters of recommendation.
- Personal Statement

In 300-500 words, discuss your creative practice within a personal and critical context. Please include why you believe graduate study at Mason Gross School will contribute to reaching your artistic growth and personal/ professional goals.

The university application must be submitted FIRST in order to gain access to the Department of Art and Design application. Typically five business days after submitting the university application, applicants will receive an email invitation to complete the Department of Art and Design application.

For the university application, apply at Graduate and Professional Admissions or Art and Design.

2. Department of Art and Design Application (submitted via Slate)

- Department questionnaire.
- Personal statement (please submit the same statement used for the university application).
- Résumé/CV (please include current and recent employment, artistic involvement, and related skills/ experience/training).
- Portfolio.

Portfolio must consist of 20 slides of works created within the last two years.

Slides can be a combination of completed works, detail shots, film stills, and time-based works.

Each slide should be captioned with title, dimensions, materials, brief description, and date of creation.

Images can be up to 5MB each and videos can be up to 250MB each.

For time-based work (video, film, performance), please submit between 5-10 videos. Each video may be up to 10 minutes in length. Links to Vimeo and YouTube files are acceptable. When applicable, please provide passwords for protected links to ensure your files are accessible to reviewers. **Acceptable Slate file formats are here below:**

-Video: 3g2, .3gp, .avi, .m2v, .m4v, .mkv, .mov, .mpeg, .mpg, .mp4, .mxf, .webm, .wmv Apple ProRes is supported.

-Slide: .bmp, .gif, .jpg, .jpeg, .png, .tif, .tiff

-Document: doc, .docx, .odg, .odp, .odt, .pdf, .ppt, .pptx, .rtf, .wpd

For more information on the application process, visit Admissions. If you face issues submitting your application please email admissions@mgsa.rutgers.edu.

For general information, use the contact form on the Rutgers' Office of Graduate and Professional Admissions website or call 848-932-7711.

M.F.A. IN DESIGN

The Master of Fine Arts (M.F.A.) degree in design is a full-time, two-year program with no midyear admissions. Admission into the program requires submitting applications to both Rutgers University and the Department of Art & Design at Mason Gross School of the Arts. Each application has a separate deadline.

1. Rutgers University Application (submitted via the University Portal)

- An official transcript from each postsecondary institution attended. Transcripts must be sent from the institution to Rutgers' Office of Graduate and Professional Admissions.
- Three letters of recommendation.
- Statement of Research Interests.
  In 300-500 words, discuss your intentions for research and design exploration in graduate study. Describe how this intention relates to your current creative practice as well as to your personal and professional long-term goals.

The university application must be submitted FIRST in order to gain access to the Department of Art and Design application. Typically five business days after submitting the university application, applicants will receive an email invitation to complete the Department of Art and Design application.

2. Department of Art and Design Application (submitted via Slate)

1. Department questionnaire.
2. Statement of Research Interests (please submit the same statement used for the university application).
   In 300-500 words, discuss your intentions for research and design exploration in graduate study. Describe how this intention relates to your current creative practice as well as to your personal and professional long-term goals.
3. Portfolio.
   Please submit up to 20 images that represent the range of your creative work.
   Slides can be a combination of completed and/or in-progress works, in any medium.
   Each slide should be captioned with title, dimensions, materials, brief description, and date of creation.
   Images can be up to 5MB each and videos can be up to 250MB each.
   For time-based work (video, film, performance), each video may be up to 10 minutes in length. Links to Vimeo and YouTube files are acceptable. When applicable, please provide passwords for protected links to ensure your files are accessible to reviewers.
   Acceptable Slate file formats are here below:
   -Video: 3g2, .3gp, .avi, .m2v, .m4v, .mkv, .mov, .mpeg, .mpg, .mp4, .mxf, .webm, .wmv Apple ProRes is supported.

   -Slide: bmp, .gif, .jpg, .jpeg, .png, .tif, .tiff

   -Document: doc, .docx, .odg, .odp, .odt, .pdf, .ppt, .pptx, .rtf, .wpd

4. Résumé/CV.

For more information on the application process, visit Admissions. If you face issues submitting your application please email admissions@mgsa.rutgers.edu.

For general information, use the contact form on the Rutgers' Office of Graduate and Professional Admissions website or call 848-932-7711.

Information and Regulations for All Graduate Design & Visual Art Students (MGSA)

INFORMATION AND REGULATIONS FOR ALL GRADUATE DESIGN AND VISUAL ARTS STUDENTS

Financial Support

Financial Support

M.F.A. in Design

As a public institution, we are committed to supporting an economically diverse population. We aim to find the maximum financial assistance possible for master of fine arts (M.F.A.) in design graduate students and to provide it in an equitable manner.

Every accepted student in the M.F.A. in design program receives a partial scholarship from Mason Gross School of the Arts.

The Department of Art and Design also offers part-time employment in jobs that support the operation of the undergraduate and graduate design area.

Teaching Opportunities

We do not offer traditional teaching assistantships. M.F.A. in design students interested in gaining teaching experience can do so via a for-credit, semester-long teaching mentorship under faculty supervision. Upon completion of the mentorship, students become qualified for teaching assignments as part-time lecturers (PTL).

If and when appointed as a part-time lecturer, a graduate student is paid the full PTL rate.

NOTE: Graduate teaching positions or continuous teaching assignments are not guaranteed. Opportunities are contingent on faculty recommendation, experience, expertise, and position availability.

M.F.A. in Visual Arts

In line with the school's belief that graduate study in art should be accessible to students from a diverse range of backgrounds, all incoming graduate students in visual arts are awarded a fellowship the equivalent of full out-of-state tuition in the first year and full in-state tuition for the second year of the program (international students continue to receive out-of-state tuition in their second year). Students are responsible for covering all additional university fees including health insurance, campus fees, housing, and materials.

Additional financial support comes in the form of a host of department jobs that support its operations.

Teaching Opportunities

We do not offer traditional teaching assistantships. Graduate students interested in gaining teaching experience can do so via a for-credit, semester-long teaching mentorship under faculty supervision. Upon completion of the mentorship, students become qualified for teaching assignments as part-time lecturers.

If and when appointed as a part-time lecturer, a graduate student is paid the full PTL rate.

NOTE: Graduate teaching positions or continuous teaching assignments are not guaranteed. Opportunities are contingent on faculty recommendation, experience, expertise, and position availability.

Studios

Studios

Every visual arts graduate student is assigned a studio space with 24-hour access. Second-year graduate students are given priority.

Every design graduate student is given 24-hour access to the shared design studio space. Students are expected to share the space respectfully with their peers.

Use of studios is contingent upon following U.S. Environmental Protection Agency guidelines for the safe and environmentally responsible use of art materials. *Safety Rules for Graduate Students* is distributed at the beginning of the academic year. Failure to comply will result in revocation of studio privileges. All students are required to complete online Rutgers University Environmental Health and Safety Training on Art Safety at the start of each academic year. First-year students cannot move into their studios until they complete the training and provide proof of completion.

Students are permitted to use only university locks (not personal) when securing their studios. This is a university regulation enforced by the Division of Fire Safety. Studios must be painted and cleaned according to the rules and regulations, and graduating master of fine arts students must vacate by May 31. Students registered for Matriculation Continued may not keep their studio space beyond this date.

All artwork and possessions used in studios and galleries are not covered by Rutgers University insurance. It is strongly recommended that students obtain their own insurance. Information is available online for purchasing insurance to cover student's personal belongings brought on campus.

Fire Regulations

Fire Regulations

All students must comply with Rutgers University's fire regulation code. No bedding is permitted in the studios and studios are not to be used as a residence. Hot pots are illegal, as are hot plates and toaster ovens, microwaves, and extension cords. Power strips are allowed. The Division of Fire Safety checks the studios; students found to violate the fire code could lose their studio rights.

Master of Fine Arts in Design Arts Program (MGSA)

MASTER OF FINE ARTS IN DESIGN PROGRAM

The Rutgers master of fine arts (M.F.A.) degree in design is a two-year, full-time course of study that combines creative work and critical inquiry. This program focuses on the innovative use of technology and interdisciplinary research in the creation of publications, experiences, exhibitions, information, interfaces, and more--preparing designers for a contemporary design studio practice that contributes to the future of arts, science, humanities, and technology.

This program attracts students who value experimentation, collaboration, and criticality. It combines studio work and the study of historical, theoretical, and cultural contexts with opportunities for collaboration with experts in a wide range of fields at Rutgers University. The program emphasizes research-driven work, empowering designers to identify, question, and synthesize quantitative and qualitative data and material from primary sources to underpin their creative projects. Design becomes a tool for inquiry and investigation alongside communication and expression.

Through seminars, studio courses, and independent work, M.F.A. design graduate students develop skills and experience to:

- Identify meaningful and appropriate subjects for design investigation
- Collaborate with research partners on complex projects that address cross-disciplinary concerns
- Visualize, design, prototype, and produce ambitious, innovative projects
- Situate their work within current scientific, social, and political contexts

This program is ideal for visual designers and other makers who seek to deepen their skills in order to initiate their own projects and contribute to and lead collaborative project teams. Graduates will find career opportunities in various creative, technological, media, and educational fields, in a wide range of roles such as information designer, interface designer, design researcher, graphic and/or digital producer, coordinator of digital laboratories, coordinator of collaborative design projects, and more.

An integral part of the program is the annual Design Lecture Series, bringing renowned and diverse practitioners and theorists to speak directly with students in an intimate setting. Previous speakers have included Somnath Bhatt, Tega Brain, Shiraz Gallab, Chris Hamamoto, Sara Hendren, Shira Inbar, Laureen Lee McCarthy, Silas Munro, Nontsikelelo Mutiti, Fiona Raby, Sadie Red Wing, Louise Sandhaus, McKenzie Wark, and Amelia Winger-Bearskin.

Development and assessment of the work happen through self-reflective writing, presentations, class discussions, and critiques with faculty and peers.

Core Courses

Core Courses

Core Courses

Core Courses

- Research Methods in Design
- Design Studios I, II, III, IV
- Design Seminar: Theory
- Design Seminar: Contemporary Practice
- Publication and Display
- Web Projects
- Thesis I, II

In addition to design courses within the program, M.F.A. design students may choose a university elective course outside of the Department of Art and Design each semester. These outside electives enable designers to engage more deeply with potential topics in the sciences, social sciences, and humanities, which will serve as springboards for their creative work.

In the first year, students focus on and develop their individual research interest through studio work, as well as readings, writing, and discussion. They begin to identify potential collaborators throughout the university for creative collaborations. In the second year, design courses address the development, production, display, and publication of the student's thesis work.

Thesis

Thesis

In the fourth semester of study, students are guided in the production of visual and written thesis work, in varied forms and contexts as described below.

Design Thesis Exhibition Students present their work installed in the Mason Gross Galleries.

Thesis Essay Students formulate an argument/idea about their Thesis Project. They describe, analyze, and synthesize this argument in the form of an illustrated and captioned five-page essay.

Thesis Panel Presentation Students deliver a verbal and visual presentation of the Thesis Project, continuing to formalize their ideas after completing the thesis exhibition.

Post-Thesis Project Students carry the work forward to a new audience or wider public. The format for this work is open; possibilities include a website, article, book, exhibition, or public display. Students are supported to seek out and apply for grants and other opportunities to distribute, publish, exhibit, or otherwise extend this work.

Transfer Credit

Transfer Credit

The Mason Gross School of the Arts policy on transferring graduate credit earned at another institution is outlined in the **University Policies and Procedures** section in the Rutgers Main catalog for university-wide academic policies and procedures.

Master of Fine Arts in Design Arts Program (MGSA)

Extra Graduation Credits

Extra Graduation Credits

Graduate students who have deficiencies in an academic area may be required to pursue extra graduation credits to eliminate the deficiency. For example, entering students with a lack of knowledge about design methods may be asked to take a remedial course. This requirement will be disclosed by the faculty through the M.F.A. design director and included in the student's file.

Master of Fine Arts in Design Arts Program (MGSA)

Continuation beyond Normal Two Years

Continuation Beyond Normal Two Years

In the special case of a student having difficulty fulfilling degree requirements within two years, they may apply to the M.F.A. design director for a third year in which to complete the requirements. In some circumstances, the director or the faculty may recommend that a student continue beyond the second year. At the discretion of the M.F.A. design director, some facilities privileges may not be provided in the third year.

If the graduate thesis is the only requirement left unfilled and will be completed by October of the following academic year, the student need not register for a third year. However, if the thesis will not be completed until the end of the fall semester, the student must register for Matriculation Continued. Maintaining Matriculation Continued status until all requirements are completed is important to avoid problems of readmission. The time limit for completing the degree is four years from the start time of matriculation.

Master of Fine Arts in Visual Arts Program (MGSA)

MASTER OF FINE ARTS IN VISUAL ARTS PROGRAM

Sixty core, or approved, credits are required for the master of fine arts (M.F.A.) degree. All M.F.A. in visual arts courses are 4 credits, and a normal semester load is 16 credits per semester. To maintain full-time status, students must be registered for a minimum of 12 credits each semester. Students may not exceed the maximum 20-credit

limit for registration. Students may take one course each semester outside the program with approval of the instructor and graduate director. Classes outside of the department may not be 4 credits, therefore students need to ensure they maintain a sufficient semester load.

Master of Fine Arts in Visual Arts Program (MGSA)

Visiting Artists/First-YearReview

Visiting Artists/First-Year Review

Visiting Artists

First-year students are required to register for a 4-credit course entitled Visiting Artists (08:081:521-522) each semester.

Each semester, approximately 10 artists, curators, writers, and critics are invited for studio visits with graduate students to give an evening public lecture, usually on Wednesdays and occasionally on Fridays. The selection of visitors is determined by graduate students and coordinated by two Visiting Artist Coordinators, Co-Ad (co-adjunct) positions, held by one first-year and one second-year graduate student. First-year students are expected to attend visiting artist series as part of the All Graduate Seminar. Additionally, each first-year student is responsible for creating a flier for one of the visiting artists as well as preparing a bio to be read as an introduction for the artist at the start of their presentation.

First-Year Reviews

Toward the end of the first and second semesters, faculty committees meet with each graduate student for a 40-minute review. During the review, the faculty evaluate the student's work and progress in the program. In preparation for the review, students are required to complete a one-page artist statement before the review, which is submitted to the faculty reviewers. In the statement and during the review, students are expected to articulate and defend their artistic strategies and intentions.

Fall Review

The fall review takes place during the First-Year Graduate Student Exhibition at the Mason Gross Galleries at the Civic Square Building. The review serves to better acquaint the graduate faculty with the first-year students, and for faculty to evaluate the work the student has done since entering the program, with a focus on the work in the exhibition. It is recommended that students arrange studio visits with members of their committee before the review takes place.

Spring Review

During the spring review, which takes place in each student's studio, faculty will assess the work assembled by the graduate student and determine whether the student is qualified to advance in the program. Following the review, the graduate director provides a written letter to each student informing them of their status in the program.

Passing both reviews is a requirement for successfully completing 08:081:521-522 Visiting Artists. An unsatisfactory review may result in a re-review and possible probation, and may lead to dismissal from the university. Students will be advised in writing as to why they have been put on artistic probation, what needs to

be done to correct it, and the deadline to remedy the situation. In the case of artistic dismissal, the student may appeal to the dean. Not passing a review may result in the withdrawal of funding or a part-time lecturer position. The review assessment is independent of the student's grades in classes.

Master of Fine Arts in Visual Arts Program (MGSA)

Thesis and Exhibition

Thesis and Exhibition

Second-year students are required to register for a two-semester sequence that includes Thesis (08:081:703) in the fall semester and Exhibition (08:081:704) in the spring semester. The sequence is a 4-credit per-semester course. Enrolled students are required to register for the Thesis Seminar in the fall semester, which meets weekly and is led by the graduate director. Additionally, students are expected to meet with each of their Thesis Advisory Committee members at least three times over the fall semester to have check-ins regarding the development of their Thesis Exhibition. In the spring semester, exhibition is driven independently by the graduate student who should be scheduling visits with their Thesis Advisory Committee to critique their thesis exhibition and develop their Thesis Exhibition one-pager as well as their expanded Thesis Statement.

Thesis Advisory Committee

In October of the fall semester, second-year students recruit three faculty members to serve on their Thesis Advisory Committee, asking one of the three to chair the committee. The chair is the "point person" for the committee and communicates with the student and faculty over any concerns, issues, or problems regarding the student's thesis. This committee will oversee the student's thesis, providing feedback and support as the student develops artwork leading to the thesis exhibition and group exhibition in New York. They will also oversee and advise on the student's Thesis Statement. It is the student's responsibility to schedule regular studio visits throughout the two semesters with all committee members, to view and discuss work-in-progress and the thesis statement.

Thesis Exhibition

In the spring semester, students are required to exhibit their work in a thesis exhibition at the Mason Gross Galleries. This exhibition is a culminating presentation of the student's artistic pursuit of two years of study in the program. Students are strongly encouraged to arrange meetings with other faculty not on their thesis or review committee to view and critique their work. In addition, the department provides $2,000 for the class to invite visiting critics to review the show.

M.F.A. Final Review

Taking place after the completion of the M.F.A. Thesis Exhibitions, the Final Review is a 60-minute defense of the student's work during which the student will present a 20-30 minute prepared presentation followed by 30 minutes of discussion and faculty feedback. The review is composed of the three faculty members, one of whom is on the student's Thesis Advisory Committee. The prepared presentation should address the student's creative and intellectual trajectory over the course of the program, addressing and contextualizing the student's full body of work created during their time in the graduate program including their Thesis Exhibition.

Thesis Statement

A three-to-five-page paper (no more than 2500 words) that is an expansion of the Artist Statement presented for the M.F.A. Final Review. The Thesis Statement is a text about the student's work, approach, ideas, and historical and contemporary context in which the student situates their artwork and production. The statement should not be viewed as an artwork in itself, but rather one that situates the student's ongoing body of work in an intellectual, critical, aesthetic, and social context. Students should take into consideration feedback from the Thesis Committee as well as their Thesis Reviewers. Students may consider this text as a template for future grant applications, fellowship proposals, and exhibition catalogues.

Thesis and Exhibition are pass/fail courses. Passing this course and graduation are contingent upon the successful and timely completion of the written thesis statement as well as the thesis exhibition and requires the approval of all three members of the thesis/exhibition advisory committee.

Master of Fine Arts in Visual Arts Program (MGSA)

Incomplete Work

Incomplete Work

For the Mason Gross School of the Arts policy on incomplete work, see Grades and Records in the Academic Policies and Procedures chapter. For rules on how an incomplete grade can affect a teaching appointment, see Financial Support earlier in this chapter.

Master of Fine Arts in Visual Arts Program (MGSA)

Academic Deficiencies

Academic Deficiencies

Graduate students deficient in any academic area are required to pursue extra graduation credits to eliminate their deficiency. The requirement for extra graduation credits is determined by the faculty, through the graduate director, and a notification of deficiency becomes part of the student's file.

Master of Fine Arts in Visual Arts Program (MGSA)

Artistic Dismissal

Artistic Dismissal

An unsatisfactory review may result in probation and may possibly be followed by artistic dismissal from the school's Department of Art and Design. This decision may be made independently of a student's grades in courses in which they may be enrolled. A student will be advised in writing why they are put on artistic probation, what needs to be done to correct it, and the deadline by which the student must remedy this situation. In the case of artistic dismissal, the student may appeal to the Mason Gross School of the Arts dean of students. Not passing a review may result in the withdrawal of a teaching position.

Master of Fine Arts in Visual Arts Program (MGSA)

Transfer Credit

Transfer Credit

Transfer of graduate credits from another program cannot be considered until the student has completed 12 credits (typically one semester) in the Mason Gross graduate program. Transfer of credit forms are available in the Department of Art and Design office. Any courses requested for transfer credit must first be evaluated and approved by the graduate director and the MGSA dean of students.

Art and Design Graduate Courses (MGSA)

ART AND DESIGN GRADUATE COURSES

Art and Design Graduate Courses (MGSA)

M.F.A. in Design Courses

M.F.A. in Design Courses

08:208:516 ***Research Methods: Epistemological Inquiry for Design Practice (4)***
Introduces various research methods for informing and stimulating the design process. Case studies cover qualitative and quantitative methods, ethnography, cultural diversity, scientific reasoning, and techno-cultural criticism. Familiarizes students with a wide range of hands-on practices, such as visualization, digital humanities, crowdsourcing, field studies, interviews, physical sensing, polls, cartography, and mapping. Readings and references will shed light on major debates in epistemology, including those over the structure of knowledge, genealogy, classification, and meta-epistemological issues in the age of digital communication.

08:208:517 ***Design Studio 1 (4)***
Each semester, M.F.A. design students take a different studio, the primary locus for developing visual work. Design Studio 1 launches the process of engaging the tools, methods, and materials of research-driven design. This course guides the student through a sequence of sketch problems followed by a student-initiated project. Examination of working models and methods and hands-on experimentation situate students for a contemporary studio practice as a designer.

08:208:518 ***Design Seminar 1: Theory (4)***
Design Seminar 1 is a topics-driven seminar focused on critical issues in design theory. For students working in all media, this course includes readings, case studies, and screenings. Departing from basic semiotic studies, this seminar examines a series of design discourses that are the direct outgrowth of related social, economic, and technological histories. Students develop writing skills in the seminar courses in preparation for their thesis writing.

08:208:532 ***Web Projects (4)***
Through readings, field trips, and individual tutorials, this class introduces an expansive view of publishing online for artists interested in making work for, of, and about the internet. In addition to a deep dive into browser-based work, this course will emphasize how physicality is an innate part of web publishing and production.

08:208:533 ***Design Studio 2 (4)***
In this second course in the studio sequence, students make work that explores visualization through supplied prompts spanning media that operate on different scales: web browser, architectural space, and sprint. Students are responsible for making a research connection within Rutgers University to support their own semester-long, research-driven design project.

08:208:534 ***Design Seminar 2: Contemporary Practice (4)***
Proposes a range of models for contemporary design practice. Contemporary designers present their practices and how they see the future design. Talks and readings will address the pragmatics of design, the role of the designer as a social agent, and design and politics. Helps students understand the challenges that designers are engaging with and situate their own research. Class discussion is a major element of the seminar. Over the course of the semester students will develop a critical design language through these discussions and through writing enabling them to analyze the field more productively.

08:208:616 ***Thesis 1 (4)***
Thesis 1 is a methodical analysis of a series of research questions by each individual student, based in the domains of art, design, or technology. It requires identification of a realm, researching its history and precedents, and explaining the significance and potentials in social or scientific contexts. This class is the environment that establishes the process and method for proposing solutions, creating prototypes, and offering a conclusion through production of a series of works.

08:208:617 ***Design Studio 3 (4)***
This studio course guides students in undertaking a self-initiated, research-driven design project in collaboration with another academic department or unit at Rutgers University or in the wider community. Students will explore and apply various visual communication techniques to realize their collaborative projects. Alongside their peers, they will compare the impact of their work in different fields of knowledge.

08:208:619 ***Publication and Display (4)***
This is a studio class on display and publication strategies. Using their own projects from the first M.F.A. year, students formulate varied ways in which their design ideas and artifacts can be presented in a public setting. The course focuses on the modalities of display in online and print media as well as installation in public or gallery/ museum spaces.

08:208:632 ***Thesis 2 (4)***
Thesis 2 is the class in which students reflect on, frame critically and write about their work, and further hone their individual design approach. This course supports the development of the thesis work exhibition, for panel presentation and for continuing the work beyond graduation. The finished thesis project goes public, evidencing originality, experimentation, critical and independent thinking, effective display, and thorough documentation.

08:208:633 ***Design Studio 4 (6)***
Design Studio 4 provides a studio environment and production guidance for students to develop, actualize, and complete the individual thesis project, a large-scale research-driven work emerging from collaboration with another academic unit at Rutgers University or larger Rutgers community. This course challenges and develops the student's advanced design studio skills. The work completed in Design Studio 4 shapes the thesis project, which is displayed in the Mason Gross Annual Design Exhibition and presented to a design panel with guest critics.

M.F.A. in Visual Arts Courses

M.F.A. in Visual Arts Courses

Graduate students enroll in at least two out of the approximately six seminars offered each semester; a 12 credit minimum is required to be considered full-time student. Each seminar focuses on issues, topics, and practices in contemporary art in relationship to students' ongoing studio work. They introduce students to new ideas, concepts, and methodologies for creatively and experimentally working and thinking together and independently as artists who are part of a larger critical field. The seminars encourage and challenge students to experiment, expand, and deepen their ideas, to engage in productive dialogue and debate about artwork--their own and others--and to learn new approaches and concepts as they develop and deepen their own art practice. Seminars may include group and individual critique, specific projects, readings, discussions, presentations, field trips, and workshops. Most full-time visual art faculty teach one graduate seminar a year. *Course topics and faculty assignments are subject to change each semester.*

08:081:521,522 ***Visiting Artists (4,4)***
This is a required course for both the fall and spring semesters for first-year graduate students. It features weekly presentations and public lectures from notable artists, critics, and curators invited to the school. Each student will participate in a limited number of individual studio visits with invited guest presenters. Selection of visiting artists is determined by graduate students. Each first-year student is responsible for creating a flier for one of the visiting artists as well as adapting a bio/ introduction for the artist to be read at the start of the evening presentation.

08:081:525,526 ***Research Projects I (4,4)***
Research Projects is an independent study at the graduate level, for a student to pursue creative research and/or studio work outside of scheduled class time under the supervision of a full-time Art & Design faculty member. The purpose of the Independent Study is to give the student the opportunity to work independently on a specific project supervised by a faculty member. The student is expected to arrange meetings and maintain communication with the supervising faculty member during the semester. **Schedule by agreement between faculty member and graduate student**

08:081:621,622 ***Visiting Artists (4,4)***
Weekly lectures and presentations of work and ideas by invited guest artists, critics, and curators; followed by discussion. As part of this course, second- year students participate in a limited number of individual studio visits.

08:081:625,626 ***Research Projects II (4,4)***
Research Projects is an independent study at the graduate level, for a student to pursue creative research and/or studio work outside of scheduled class time under the supervision of a full-time Art & Design faculty member. The purpose of the Independent Study is to give the student the opportunity to work independently on a specific project supervised by a faculty member. The student is expected to arrange meetings and maintain communication with the supervising faculty member during the semester. **Schedule by agreement between faculty member and graduate student**

08:081:675 ***Grad Seminar: Writing as a Studio Practice (4)***
This seminar will provide a structure and context for an engagement with writing as it relates to each person's needs. Writing is an important skill for all creative practitioners, whether it is a part of their creative work, a

professional ability to represent ideas or as an extension of critical engagement. Participants will focus on and improve their writing as a flexible tool for creative uses in and as extensions of their studio work. This could include scripts, songs, essays, poems, interviews, appropriative techniques, and critical writing. Examples and contexts for different styles/approaches will be discussed to broaden the potential relationships between language as an integral part of studio practice, writing as a means of supporting professional development, and to communicate critical ideas. Practically, we will spend our time together developing and workshopping projects/writings, reading/discussing the assembled texts, and giving feedback in group studio visits. FALL 2025

08:081:676 ***Grad Seminar: Self and others in our studio (4)***
The seminar is open to all disciplines, and is made up of group studio visits and presentations of individually and collectively chosen texts and source material. The presentations may take many forms, and will serve as a shared frame of reference through which we examine each other's work.

There is one assignment: to self-diagnose a generative irritant/problem/enduring nut in your work, and make a material articulation of it. Pick a (relatively) unfamiliar medium so as not to repeat the terms of your usual MO, and foreground the specifically unresolved. This is an invitation to reframe ourselves as makers without the usual defenses, and the discussion around it requires courage and care with each other.

The seminar aims to bring the participant closer to their own procedural definition for progress, analysis and resolution via the resources of the group, and to help build a discursive home for their practice that is cognizant of the tenderest parts of what sustains them as a maker. FALL 2025

08:081:677 ***Grad Seminar: On Beauty (4)***
In this course, we will attempt to interrogate, apprehend, and reclaim beauty as we collectively explore its relevancy and political potency, not only in relation to a world that is increasingly "ugly," but also with respect to a contemporary art discourse that has become "beauty blind." Readings will include fiction, philosophy, ekphrastic writing, essays, and poetry by writers like Dave Hickey, Byung-Chul Han, Elaine Scarry, Zadie Smith, T. Fleischmann, Alexander Nehemas, Mark Doty, and more. This course may include the following: screenings, regular group critiques, individual studio visits, exploratory thinking/writing/making exercises, and non-art related experiences and field trips that will become a jumping off point for discussions: of beauty, art, life, meaning, and more. This course is open to graduate students who are enthusiastic about reading. Students may work in any media. FALL 2025

08:081:678 ***Grad Seminar: Myth, Rhythm, and Place (4)***
What creative freedoms can we allow ourselves if we replace History, Time, and Geography, with Myth, Rhythm and Place? This course asks participants to examine the terms employed in their own work and the work of peers and predecessors in order to try and rethink and perhaps clarify the function of these representational anchors. What freedoms might we be offered in the process of letting them go? We consider that Narrative storytelling is perhaps an amalgam of archives converging from various sources to tell a story that is truer in unison than it is in isolation. In so doing the course asks participants to find new or more appropriate forms and language in hopes that they might get closer to their stated objectives. The course will be divided into three different sections, 1) Authorship and Narrative, 2) Withholding: Representation, Refusal and Resistance, 3) Transformations of silence. On alternating weeks participants will lead discussions on readings which foreground seminar themes and ideas. On opposite weeks participants will share work in group and individual discussions. Among others, seminar texts will include works by Audre Lorde, Frantz Fannon, Kara Keeling, Kevin Quashie, Toni Morrison, Fred Moten, Jose Esteban Munoz, and Ross Gay. FALL 2025

08:081:679 ***Grad Seminar: Landscape as Metaphor (4)***
The landscape as a subject is unique in that it is both a lived experience and historical record; it is both a physical place and an ideological space. It incorporates both past and present in the marks and scars which are etched into the earth as reminders of the forced removal of peoples; the extraction of natural resources and the subsequent pollution of land, water, and air; and economic policies that promote 'growth' and 'shareholder profit' at the expense of workers and communities. The word 'landscape' first came into popular usage in the 1600's as a way to describe the view of a scene of nature; or specifically, to paintings of extensive, natural scenery. This usage, as a form of representation, implies the presence of a spectator or creator, and by default asserts the understanding of the body's position in space. As a verb, landscaping refers to land as shaped and cultivated by people. Together, we will be reading, watching films, and looking at a myriad of different art practices that have the landscape as some form of departure, subject, material, medium or investigation; as well as discussing issues of agency, ownership and sovereignty; environmental racism; the idea of progress; cycles of civilizations; and contemporary issues surrounding land use. Unless we are taking a trip or having a group critique, we will meet each week for readings/screenings/presentations/discussion, with the balance of the time dedicated to unpacking, discussing, and clarifying your own personal work, which does not have to be related to landscape, and can be in any medium. All are welcome. FALL 2025

08:081:703 ***Thesis (4)***
Thesis Seminar offers guidance, feedback, and structure for 2nd-year Visual Art MFA graduate students as they research, develop and explore the practical, theoretical, and conceptual concerns for their upcoming thesis. We will work together on planning involved in the thesis. This includes both practical planning and investigations into exhibition design and display strategies as students envision and develop exhibition proposals, plans, and a vision for their solo and group shows. Through individual presentations, group exercises, discussions, and readings, students will work towards articulating the practical, social, political, artistic, and theoretical concerns, contexts, and the historical precedents that inform their work and thinking.

08:081:704 ***Exhibition (4)***
The exhibition is a presentation of two years of creative work in the program. It takes place during the final spring semester in the Mason Gross Galleries along with a final presentation to audience of faculty and graduate peers. A student's exhibit is subject to committee review, consultation, and evaluation by the thesis committee and other members of the graduate faculty.

08:081:800 ***Matriculation Continued (0)***
In order to retain degree-seeking status in the program until all requirements are completed, students must maintain continuous registration by registering each fall and spring semester for coursework, research, or matriculation continued. Students who fail to maintain their status must apply for reinstatement.

08:081:877 ***Teaching Mentorship (4)***
The purpose of the Teaching Mentorship is to provide an opportunity for first-year Graduate Students to shadow a faculty member during one semester of an undergraduate BFA course. This is a time to observe teaching styles and classroom management; become familiar with departmental curriculum, protocols and procedures; support the faculty as needed; as well as interface with undergraduate Art & Design students by doing demonstrations and critiques under the instructor's supervision. Undergrad courses meet once a week for six hours or twice a week for three hours.

Graduate Programs in Dance (MGSA)

GRADUATE PROGRAMS IN DANCE

Degree Programs: Master of Education in Dance Education (Ed.M.)

Chair, Department of Dance: Gerald Casel

The Department of Dance at Mason Gross School of the Arts fosters excellence at the intersection of dance performance, creative achievement, and research inquiry. An accomplished faculty of artist-scholars work closely with students, providing mentorship and expert instruction in dance techniques, somatic studies, performance, choreography, pedagogy, and theoretical studies. The proximity of the Mason Gross School to New York City offers students opportunities for master classes and workshops in world dance forms with international artists.

The mission of the department is to cultivate a community of dance artists of the highest caliber who are collaborative and multidimensional in their view and knowledge of the dance field internationally. The faculty supports student artists' creative and scholarly research on multiple levels, encouraging them to develop critical thinking skills as a base for career pathways in the arts, business, education, sciences, and technology. Students will attain a clear and fundamental knowledge of how their embodied experiences, including improvising, performing, choreographing, writing, and teaching are investigated, integrated, and ultimately synthesized through artistic and scholarly methodologies.

The Ed.M. Program in Dance Education is a partnership between the Rutgers Graduate School of Education (GSE) and the Department of Dance at Mason Gross School of the Arts. It is part of the GSE's Urban Social Justice Teacher Preparation Program, which aims to develop a generation of teachers with the knowledge, skill, and dispositions to teach and advocate for all students and learn from the communities they serve. It prepares teacher candidates to effectively teach diverse learners by fostering a deep understanding of students from historically marginalized linguistic, economic, and cultural backgrounds and communities.

Ed.M. in Dance Education

Frederick Curry, Program Director
Graduate Studies School 15 (Graduate School of Education-New Brunswick)
Undergraduate and Graduate Studies School 07, 08 (Mason Gross School of the Arts)

Ed.M. in Dance Education Program Goals

Dance Graduate Courses

Ed.M. in Dance Education Program Goals (MGSA)

ED.M. DEGREE PROGRAM GOALS

Knowledge/Understanding

- Students will develop professional teacher-learner knowledge of dance-as-art as an educational practice, scholarly field, policy landscape, and community of practice.
- Students will develop professional teacher knowledge about the pedagogy of teaching dance and how individual differences among children in terms of their abilities and their social, economic, and cultural backgrounds influence learning.

Communication/Community Building

- Students will recognize and appreciate the multiple communities that make up schools and how they are mutually informed.
- Students will develop skills to cultivate being in embodied relationships with diverse people toward achieving community goals.

Diversity, Equity, and Inclusion (DEI)

- Students will learn to disrupt educational structures that perpetuate the marginalization of non-dominant communities and identities.
- Students will develop professional teacher knowledge of how individual differences among children in terms of their abilities and their social, economic, and cultural backgrounds influence learning.
- Students will examine dance learning contexts for the potential to nurture identity formation, engender empathy, embrace diverse perspectives, engage interdisciplinary inquiry, and shape social transformation.
- Students will be empowered as advocates of dance-as-art state mandates who strive to ensure educational equity for all PK-12 children.

Research/Professional Practice

- Students will apply social justice-informed pedagogies that nurture identity formation, engender empathy, embrace diverse perspectives, engage interdisciplinary inquiry, and shape social transformation.
- Students will develop their knowledge, skills, and dispositions in curriculum development, assessment, research, data-informed decision-making, and leadership.
- Students will reflect on and refine their practice as well as participate in professional development for pre-service and in-service dance and classroom educators.

Assessment

- Students will design standards-informed multi-modal assessments that demonstrate embodied learning and are intended for diverse learners.
- Students will enhance their ability to facilitate equity-informed assessment processes that stimulate student ownership of creating, performing, responding, and connecting in dance.

Professional Development/Self-Reflection

- Students will engage in critical conversations in the field of dance education and understand the implications of these conversations for their school community and teaching practice.
- Students will understand their intersectional identities and positionality, recognize the implicit biases that may result from that positionality, and mitigate how implicit bias can adversely impact their planning, instruction, and assessment.
- Students will take on service and leadership responsibilities that help shape practice in the field of dance education.

Dance Graduate Courses (MGSA)

DANCE GRADUATE COURSES

Ed.M. in Dance Education Courses

07:207:405 ***Motor Learning and Control for Dance Pedagogy (3)***
Motor Learning and Control for Dance Pedagogy provides students an overview of theories and practice in motor learning, concepts, and principles that relate to the acquisition and relearning of motor and movement skills. Students are involved in class lectures, discussions, and movement laboratories that examine and apply these principles.

07:207:406 ***Introduction to Curriculum Design and Assessment for Dance (3)***
Introduces basic concepts of instructional planning and assessment necessary for the development of PK-12 dance curricula that are meaningful in PK-12 settings as well as culturally situated. Students will be guided in developing PK-12 dance yearlong plans, instructional units, and lesson plans based on their own teaching visions, the culture of a specific school community, as well as in consideration of local educational guidelines.

07:207:407 ***Dance Technique Pedagogy (3)***
Introduces students to developing theoretical knowledge and practicing essential pedagogic skills for teaching developmentally appropriate dance technique classes for children and adolescents in PK-12 education. Students will learn to situate lesson planning within movement theory, educational standards, artistic traditions, and backward planning, and to scaffold movement principles to help diverse learners achieve shorter- and longer-term educational and artistic goals.

07:207:408 ***Creative Dance and Choreography Pedagogy (3)***
Students will examine pedagogical issues and methods for planning, teaching, and assessing creative dance, dance improvisation, dance-making, and responding to dance across a range of learner development and English language learners and as appropriate for PK-12 urban learning settings.

08:207:501 ***Teaching Concepts in Dance for Students with Special Needs (3)***
Prepares students with the knowledge and skills to design and implement a program in dance education that addresses students with special needs. Topics will include federal legislation, an examination of common diseases/conditions, Individual Education Plans (IEP) and 504 plans, Universal Design for Learning, resource development, adaptive planning, adaptive dance teaching methods, and related classroom management and adaptive dance assessments. Students will be provided concrete models of adaptive dance pedagogy and practice teaching specific adaptive teaching skills.

08:207:502 ***Embodied Dance History Pedagogy (3)***
The course content focuses on historically significant traditions in dance education and the ways in which they can inform pedagogic strategies that illuminate and clarify dance in urban education. Students will examine pedagogical issues and methods for planning, teaching, and assessing dance technique across a range of learner development as appropriate for PK-12 urban education settings.

08:207:510 ***Introduction to Research in Dance Education (3)***
Aims to engage students in developing introductory knowledge and skills for discerning, reviewing, and conducting qualitative research data collection in educational dance contexts. Students will explore various elements of research inquiry such as narrowing researching questions, searching, skimming and scanning literature, developing critical annotations, and examining various data elicitation methods.

08:207:511 ***Leadership in Dance Education (3)***
This course introduces leadership concepts and program planning as it applies to directing dance programs in PK-12 schools and other settings. It will examine the interrelationships between curriculum, programming, and service and the development of professional career materials that demonstrate leadership potential. During this seminar-based course, students will engage in activities such as examining critical contemporary issues in PK-12 education, examining case studies, developing strategic employment materials, and examining the leadership responsibilities of dance educators. This course will draw upon the student's prior knowledge of Ed.M. courses, including instructional planning and educational technology, to successfully complete course assignments and projects.

08:207:557 ***Graduate Independent Study (1-3)***

08:207:595 ***Special Topics in Graduate Dance Education (1-3)***
By special permission, students can continue their technique training by participating in select B.F.A. dance classes.

Graduate Programs in Music (MGSA)

GRADUATE PROGRAMS IN MUSIC

Degree Programs: Master of Music, Doctor of Musical Arts, Artist Diploma

Director, Department of Music: Amanda Eubanks Winkler, Ph.D.

Graduate Adviser: Robert Grohman, D.M.A.

The Department of Music at the Mason Gross School of the Arts offers advanced training in performance, conducting, jazz studies, opera, and music education leading to the master of music (M.M.) degree, the doctor of musical arts (D.M.A.) degree, or to the artist diploma (A.D.). These programs have as their common aim the development of highly educated professional musicians who excel in their major areas of study. The M.M. and D.M.A. programs also strive to give participants a deep historical and theoretical understanding of all aspects of music and a firm grasp of the most recent developments in the field.

Those who choose to pursue advanced training at the Mason Gross School of the Arts Department of Music enjoy the advantages of a distinguished performance and music education faculty. In addition, they receive the benefits of an equally prominent faculty in musicology, music theory, and composition through course offerings at Rutgers School of Graduate Studies. The diverse faculty resources available offer a breadth of experience that students rarely encounter in other programs and institutions.

A special feature of the graduate programs is the Rutgers Concert Bureau, which arranges concert opportunities for enrolled graduate students.

Music Faculty

Music Admission

Information and Regulations for All Graduate Students in Music

Master of Music Programs

Doctor of Musical Arts Program

Artist Diploma Program

Music Graduate Courses

Music Ph.D.

Music Faculty (MGSA)

MUSIC FACULTY

For individual faculty profiles, please visit our website.

Andrew Adelson (oboe)
Robert Aldridge (composition)
Robert Ameen (percussion)
Alan Baer (tuba)
Noreen Baer (trombone)
Julia Baumanis (instrumental conducting)
Robert Bernotas (jazz)
Ralph Bowen (saxophone and jazz theory)
Anthony D.J. Branker (jazz saxophone)
Karina Bruk (piano)
Bille Bruley (voice and opera)
Abraham Burton (jazz saxophone)
Lee Caplan (ethnomusicology)
Eduardo Chama (voice and opera)
David Chapman (music history)
Nicholas Chong (musicology)

Yun Kyung Choo (piano)
Andrea Christie (musicology)
Timothy Cobb (double bass)
Paul Cohen (saxophone)
Paul Conrad (piano)
Stephanie Cronenberg (music education)
Sarah Cyrus (horn)
Kenneth Davis (double bass)
Kenneth DeCarlo (trumpet)
Christopher Doll (theory)
Mark Dover (clarinet)
Melissa Dunphy (composition)
Amanda Eubanks Winkler (musicology)
Orrin Evans (jazz piano)
Kevin Farrell (composition)
Bart Feller (flute)
Jack Frerer (composition)
Jason Geary (musicology, dean)
Barbara González-Palmer (piano and vocal coaching)
Robert Grohman (coordinator of graduate studies, piano)
Conrad Herwig (trombone)
Kaoru Hinata (flute)
Maureen Hurd Hause (clarinet)
Kynan Johns (orchestral conducting)
Douglas Johnson (musicology)
Taina Kataja (voice)
Dawn Kotoski-Shicoff (opera and voice)
Min Kwon (piano)
Ching-Chun Lai (orchestral conducting)
Louis Levitt (double bass)
Victor Lewis (percussion)
Alex Lough (music technology)
Adam Machaskee (jazz trombone)
Mikhaela Mahony (opera)
Burt Mason (trombone)
Jessica Morel (aural skills)
Todd Nichols (music education and instrumental conducting)
Judith Nicosia (voice)
Michael Noordzy (jazz)
Alex Norris (jazz trumpet)
Roger Nye (bassoon)
MyungJin Oh (musicology)
Hirono Oka (violin)
Scott Ordway (theory and composition)
Daniel Panner (viola)

David Peel (horn)
Todd Phillips (violin)
Nancy Yunhwa Rao (music theory)
Marjoris Regus (music education)
Sasha Romero (trombone)
Gregory Rosetti (music technology)
Carol Sharar (music education)
John Sheppard (trumpet)
Jonathan Spitz (cello)
Marc Stasio (jazz studies)
George B. Stauffer (musicology and organ)
Jo-Ann Sternberg (clarinet)
Dave Stryker (jazz guitar)
Ian Sullivan (percussion)
Brennan Sweet (violin)
Andre Tarantiles (harp)
Mark Timmerman (bassoon)
Joseph Tompkins (percussion)
Mike Truesdell (percussion)
Stephanie Tubiolo (choral conducting)
Timothy Urban (aural skills)
Jessica Valiente (Latin American Chamber Music Ensemble)
Vladimir Valjarevic (piano)
Aaron VanderWeele (euphonium)
Kristen Wallentinsen (music theory)
Jennifer Wharton (bass trombone)
Brandon Williams (music education and choral conducting)
Kraig Alan Williams (instrumental conducting)
David Wolfson (music theory)
Yen Yu (violin)
Shelley Zhang (ethnomusicology)
Zhuo Zhao (music theory)
Carmit Zori Rinehart (violin)

Music Admission (MGSA)

MUSIC ADMISSION

Deadlines

All applicants for September admission must submit the university application by January 1, and supplemental materials by January 15.

Application for Graduate Performance Degrees

Students seeking a performance degree are required to present an audition. Audition requirements may vary based on specialization and can be found at Music MM, DMA, AD Application Information. Those wishing to enter the doctor of musical arts (D.M.A.) degree program in performance must also take a writing exam. International applicants to the master of music (M.M.) degree program whose undergraduate degrees are from schools whose primary language of instruction is not English must also take a writing exam. For both the D.M.A. degree and the artist diploma (A.D.), applicants also must submit evidence that they have completed an M.M. degree or the equivalent; the only exception to this is the A.D. in opera, which requires as prerequisite only an undergraduate degree.

Application for Graduate Music Education Program

Applicants to the M.M. degree program in music education should hold a baccalaureate degree (or equivalent) in music or music education. No audition or GRE is required. In addition to the other required application materials, applicants to the M.M. degree program in music education must submit a scholarly writing sample, such as a term paper from an undergraduate music or music education course.

Applicants to the D.M.A. degree program in music education should have completed an M.M. degree (or the equivalent) in music or music education and hold at least one degree in music education. In addition, they should have a minimum of two years of successful teaching experience (or the equivalent) in grades K-12. No audition or GRE is required. Additional application requirements may apply, depending on the student's choice of cognate area (such as an audition for performance or conducting, or a portfolio for composition). A cognate area does not need to be selected before admission to the D.M.A. program. In addition to the other required application materials, applicants to the D.M.A. degree program in music education must submit a scholarly writing sample, such as a master's thesis or equivalent term papers, and they will be interviewed by the music education faculty.

TOEFL Scores

For all international applicants to graduate programs, minimum TOEFL scores apply. Applicants should contact the Department of Music Office of Admissions for details.

Application Procedures

Up-to-date audition and application requirements may be viewed online at Music MM, DMA, AD Application Information.

To apply:

1. Complete the Rutgers University application at Graduate and Professional Admissions. (Choose Mason Gross School of the Arts as the school of intent.)
2. Complete the Mason Gross Supplemental Application, emailed to applicants upon completion of the Rutgers application.
3. For programs that require an audition, choose the audition date in the Mason Gross Supplemental Application. Once that is submitted, your audition date will be confirmed by the Office of Admissions of the Department of Music.

Information and Regulations for All Graduate Students in Music (MGSA)

INFORMATION AND REGULATIONS FOR ALL GRADUATE STUDENTS IN MUSIC

Facilities

Facilities

Facilities used by the Department of Music include 50 practice rooms, several large ensemble spaces, Schare Recital Hall, Shindell Choral Hall, Voorhees Chapel, Kirkpatrick Chapel, and numerous teaching studios, classrooms, and offices. The Nicholas Music Center is an 800-seat concert hall. The Robert E. Mortensen Hall is a state-of-the-art facility featuring 22,000 square feet of performing and practice spaces as well as a recording studio.

The school owns pianos, organs, harpsichords, and a fortepiano. The Blanche and Irving Laurie Music Library contains approximately 53,000 books and scores and 18,000 recordings. The library also hosts the Performing Arts Library Seminar Room and a music technology classroom.

Performance Organizations and Performance Requirements

Performance Organizations and Performance Requirements

Students are required to participate in large ensembles, chamber music, and other ensembles as dictated by their individual programs. Students take part in such groups as the Rutgers Symphony Orchestra, Rutgers Wind Ensemble, Rutgers Symphony Band, Rutgers Jazz Ensemble, Kirkpatrick Choir, Opera at Rutgers, and the Rutgers Baroque Players.

Fellowships and Financial Aid

Fellowships and Financial Aid

Working financial aid awards based on musical merit are awarded through the Department of Music. For information about need-based financial aid and applications for grants, please visit Financial Services.

Additional Information

Additional Information

More detailed and complete information relevant to all graduate students is available in the Department of Music Graduate Handbook.

Master of Music Programs (MGSA)

MASTER OF MUSIC PROGRAMS

The Master of Music programs cultivate the study and creation of music through engagement with current methodologies in and innovative approaches to research and composition.

Master of Music Degree in Jazz

Master of Music Degree in Jazz

The program of study leading to the master of music (M.M.) degree in jazz is open to students with a bachelor of music (B.M.) degree or bachelor of arts (B.A.) degree (or equivalent) in music. Applicants who hold a B.A. in another field may apply but will be required to undergo additional testing to demonstrate their proficiency in music. To gain admittance to the program, applicants must demonstrate the level of performance skill and musicianship necessary to start a professional career.

Required Course of Study

Completion of the program normally takes two years, but the time limit for the M.M. degree is four years from the time of matriculation. Exceptions to extend the time limit may be made with the approval of the Graduate Oversight Committee, the graduate coordinator, and the dean.

A total of 36 credits is required, distributed as follows:

1. Four semesters of performance study (12 credits), culminating in a degree recital (1 credit). This performance is evaluated by a faculty committee consisting of the student's major teacher and an additional faculty member approved by the graduate adviser. The student must receive a passing evaluation from both of the committee members, with the result of a split evaluation determined by the graduate adviser.

2. Four semesters of jazz ensemble (4 credits).

3. Two courses (6 credits) in graduate-level composition and arranging.

4. Two courses (6 credits) in graduate-level historiography of black music.

5. Six (6) credits of Graduate Improvisation and one (1) credit of Jazz Chamber Ensemble.

Master of Music Degree in Music Education

Master of Music Degree in Music Education

The program of study leading to the master of music (M.M.) degree in music education is designed for practicing music teachers who possess a bachelor's degree in music education (or equivalent) with a minimum G.P.A. of 3.0, a teaching certificate in music education, and have at least one year of full-time K-12 music teaching experience.

Required Course of Study (a total of 30 credits, which are distributed as follows):

1. Six courses (18 credits) in music education:

Required Courses:

- 08:702:513 Philosophical Foundations of Music Education (3)
- 08:702:514 Graduate Research in Music Education (3)
- 08:702:516 Culturally Responsive Pedagogy in Music Education (3)

Electives in Music Education (choose three from the following):

- 08:702:531 Wind Band Literature for Graduate Music Educators online (3)
- 08:702:533 Advanced Conducting in Music Education (3)
- 08:702:538 Proseminar in Music Education (3) (may be repeated with different content)
- 08:702:544 Advanced Topics in General Music (3)
- 08:702:545 Psychology and Sociology of Music Education (3)
- 08:702:571 Graduate Inclusive Learning In Music (3)
- 08:702:572 Seminar in Choral Literature for Music Educators online (3)
- 08:702:574 Teaching Music Across the Curriculum
- 08:702:575 Integrating Technology in the Music Curriculum online (3)
- 2. Three courses (9 credits) in music theory and music history, to be selected with the graduate adviser's approval.

3. Master's Capstone in Music Education (3). The Capstone instructor will provide students with instructions for completing the Capstone Presentation and Project Approval Form.

Students in music education are not guaranteed lessons but may take them if space is available following an audition with the appropriate area faculty.

Master of Music Programs (MGSA)

Master of Music Degrees in Performance and Conducting

Master of Music Degrees in Performance and Conducting

The programs of study leading to the master of music (M.M.) degrees in performance or conducting are open to students with a bachelor of music (B.M.) degree or bachelor of arts (B.A.) degree (or equivalent) in music. Applicants

who hold a B.A. in another field may apply but will be required to undergo additional testing to demonstrate their proficiency in music. To gain admittance to the program, applicants must demonstrate the level of performance skill and musicianship necessary to start a professional career. Instruction is available in most orchestral instruments, piano, voice, as well as choral, orchestral, and wind band conducting.

Required Course of Study

Completion of the program normally takes two years, but the time limit for the M.M. degree is four years from the time of matriculation. Exceptions to extend the time limit may be made with the approval of the Graduate Oversight Committee, the graduate adviser, and the dean.

A total of 36 credits is required, distributed as follows:

1. Four semesters of performance study (12 credits), culminating in a degree recital (1 credit). This performance is evaluated by a faculty committee consisting of the student's major teacher and an additional faculty member approved by the graduate adviser. The student must receive a passing evaluation from both of the committee members, with the result of a split evaluation determined by the graduate adviser.

2. Four semesters of major ensemble (4 credits), or for keyboardists, chamber music/accompaniment.

3. Two courses (6 credits) in graduate-level music theory, to be selected with the graduate coordinator's approval.

4. Two courses (6 credits) in graduate-level music history, to be selected with the graduate coordinator's approval.

5. Seven (7) credits of elective courses in music acceptable for graduate credit. For voice students, three of these credits are restricted to three courses (1 credit each) in vocal coaching.

In addition, students must meet the following requirements:

1. All students must pass a comprehensive examination in the history and literature of their major performance specialties, including aspects of theory and performance practice. A student who fails this examination is provided with a written explanation as part of the notification. He or she then will have the chance to take a reexamination. Reexaminations occur at the next regularly scheduled test period. Unless a procedural flaw occurs in the reexamination process, a student is permitted to take only one reexamination.

2. Candidates in voice must also demonstrate proficiency in diction/International Phonetic Alphabet (I.P.A.) and singing French, German, Italian, and English.

Master of Music Programs (MGSA)

Master of Music in Voice with Concentration in Opera

Master of Music in Voice with Concentration in Opera, Artist Diploma in Opera

The program of study leading to the master of music (M.M.) in opera is open to students with a bachelor of music (B.M.), bachelor of arts (B.A.), or equivalent in music. To gain admittance to the program, applicants must demonstrate the level of performance skill and musicality necessary to start a professional career.

MM in Opera Course of Study

Completion of the programs normally takes two years, but the time limit for the M.M. degree is four years from the time of matriculation. Exceptions to extend the time limit may be made with the approval of both the graduate coordinator and the dean.

A total of 37 credits for the M.M. is required, distribution as follows:

1. Four semesters of performance study (12 credits) culminating in two role performances or roles study (1 credit each). These performances are evaluated by a faculty committee consisting of the student's major teacher and two additional faculty members approved by the graduate coordinator. The student must receive a passing evaluation from a majority of the committee members.

2. Four semesters of ensemble (Opera Workshop - 4 credits).

3. One course (3 credits) in graduate-level music theory, to be selected with the graduate coordinator's approval.

4. Two courses (6 credits) in graduate-level music history (one must be Studies in Opera), to be selected with the graduate coordinator's approval.

5. Four courses (4 credits) in Graduate Diction, one semester each of English, French, German, and Italian.

6. One course (2 credits) Acting for Singers

7. One course (2 credits) Movement for Singers

8. One course (1 credit) Seminar in Vocal Health

9. One course (1 credit) Business of Opera

In addition, all students must pass a comprehensive examination based on the coursework included in the degree program. A student who fails this examination is provided with a written explanation as part of this notification. He or she will then have the chance to take a reexamination. Reexaminations occur at the next regularly scheduled test period. Unless a procedural flaw occurs in the reexamination process, a student is permitted to take only one reexamination.

Candidates must also demonstrate translation abilities in two languages, and proficiency in diction/International Phonetic Alphabet (I.P.A.) in French, German, Italian, and English.

Progress Reports

Progress Reports

A grade of B or better is expected in all coursework. No grade below B is acceptable in the student's performance specialty or major. Up to 3 credits of C-level work in courses outside of the student's performance specialty or major may be counted toward their degree. No more than 3 credits of C-level work will be permitted toward the master of music (M.M.) degree.

Students are considered to be in good standing in the program and to be making satisfactory progress toward their degree unless they are officially notified to the contrary by the graduate coordinator under advice of the Graduate Oversight Committee. In performance areas, the committee regularly reviews a student's contribution to ensembles and other departmental activities. It also examines any concerns that the faculty might have about the student's level of performance. The committee may recommend continuation, probational continuation with possible loss or reduction of any financial aid, or dismissal from the program for artistic or academic reasons. In performance areas, the student must perform before a jury at the end of every semester, except for those in which a degree recital has been presented satisfactorily.

A student may appeal a recommendation for probational continuation or dismissal to the dean of Mason Gross School of the Arts. If the dean upholds the judgement of the Graduate Oversight Committee, there is no further appeal.

Master of Music Programs (MGSA)

Transfer Credit

Transfer Credit

As many as 6 credits toward the master of music (M.M.) degree earned at another accredited graduate program may be evaluated for transfer by the Graduate Oversight Committee after a student has completed 12 credits at Rutgers. No undergraduate credit can be transferred.

Master of Music Programs (MGSA)

Master's Students Continuing to Doctoral Study

Master's Students Continuing to Doctoral Study

Students completing a master of music (M.M.) degree at the Mason Gross School of the Arts may request that their final degree recital be considered as an audition for the doctor of musical arts (D.M.A.) or artist diploma (A.D.) audition. Such a request must be made at least one month prior to the recital date.

Doctor of Musical Arts Program (MGSA)

DOCTOR OF MUSICAL ARTS PROGRAM

The doctor of musical arts (D.M.A.) program offers specializations in performance, conducting, and music education. One of the specializations must be selected in order to complete the D.M.A. program.

Doctor of Musical Arts Program (MGSA)

Performance Track

Performance Track

The doctor of musical arts (D.M.A.) program in performance is designed for musicians who seek to refine their musical skills, expand their repertoire, extend their performing experience, and deepen their understanding of musicology and music theory. Musicians in this program have earned a master of music (M.M.) degree or equivalent and are preparing for a professional, public concert career, and/or a faculty position in higher education. Students admitted to doctoral study must have demonstrated a professional level of performance and are expected to achieve excellence as both musicians and scholars.

Required Course of Study

It is possible to complete all requirements for the D.M.A. degree within three years of full-time residence. Students must complete the program in no more than five years. With the approval of the graduate coordinator, the Graduate Oversight Committee, and the dean, the school may extend this maximum time limit. A typical schedule for each of the six semesters includes lessons in a major area of performance study, at least one ensemble appropriate for doctoral credit, and one or two courses not involving performance. The specific requirements are as follows:

Performance Study

1. *Private study:* Six semesters (1 credit each) in the candidate's major performance area are required.

2. *Recitals:* Instrumentalists perform two solo recitals, one chamber recital, and one lecture-recital are required. Conducting students perform one aggregate, one full recital, and one lecture-recital. Voice students perform 3 recitals with chamber music comprising 30 minutes across the three recitals. The level of performance, which should be professional at the outset, is expected to mature significantly during the period of study. With the permission of the major teacher, voice students may petition the Department of Music's Graduate Oversight Committee to substitute one appearance on a concerto program or opera performance at Rutgers for one of the required solo recitals.

3. *Independent research:* Undertaken in connection with the required lecture-recital, this is accomplished by enrolling in 08:702:603,604 Lecture Recital Advisement with a faculty member active in research. The research project culminates in a formal paper of a minimum length of 11,000 words that is submitted for approval to the student's recital evaluation committee.

4. *Special requirements:* All voice students must perform a major role from an opera or oratorio. With the approval of the Graduate Oversight Committee, this performance may substitute in some cases for one of the solo or chamber recitals.

5. Piano students must present a complete concerto, either in a public performance or in a hearing for the piano faculty. A performance with a piano reduction is acceptable.

Ensemble

Ensemble participation is required in each semester of residency (six semesters total). One credit is earned each semester. Placement in the ensemble must be approved by the graduate coordinator in consultation with the department director based on audition results. There are two distinctions in an ensemble: large and chamber. All orchestral instrumentalists and vocalists must be enrolled in six semesters of large ensemble (orchestra, wind ensemble, symphony band, opera workshop). Certain ensembles may require auditions as often as each semester.

In addition to the large ensemble requirement, D.M.A. instrumentalists are required to take at least two semesters of chamber ensemble (2 credits total). This can be fulfilled by chamber ensemble, brass ensemble, percussion ensemble, Helix, or Rutgers Baroque Players.

Pianists: All D.M.A. and A.D. pianists must enroll in a combination of six semesters of either chamber ensemble or studio accompanying. The general distribution is two semesters of chamber music and four of studio accompanying. Substitution of up to two chamber ensemble credits in place of studio accompanying credits is allowed with the permission of the graduate coordinator. Participation in a large instrumental ensemble, opera, and choral ensemble may also be substituted for studio accompanying with the permission of the graduate coordinator. The department reserves the right to assign students to a particular ensemble.

Graduate Courses in Musicology, Music Theory, and Related Areas

Except for pianists, a minimum of 18 credits in advanced graduate coursework outside the candidate's applied study is required. The requirements include:

- 16:700:501 Introduction to Music Research (3)
- One of the following courses in Musicology (3):
    - 16:700:517 The History of Musical Style
    - 16:700:519,520 Proseminar in Music History
    - 08:702:550 Special Topics in Music History
- One of the following courses in Music Theory and Analysis (3):
    - 16:700:525 or 526 Studies in Music Analysis
    - 16:700:541 or 542 Special Topics in Music Theory and Analysis
    - 16:700:571 or 572 Schenkerian Analysis
    - 16:700:573 or 574 Twentieth-Century Theory
- Proseminar in Performance Practice 16:700:567, 568
- Literature or repertory course
- One 3-credit graduate elective

Pianists follow the same requirements as above with an additional literature course required for an additional 2 credits and a piano pedagogy course, resulting in a total of 21 credits in graduate coursework in related areas.

Voice Majors must also take 08:703:557 Acting for Singers (2).

A comprehensive list of graduate courses offered by the School of Graduate Studies (16:700) and by the Mason Gross School of the Arts (08:702 and 703) is available on this catalog page.

Pedagogical Component and Professional Development

Candidates in the D.M.A. programs in performance and conducting are required to fulfill a pedagogical component during the period of their D.M.A. coursework. Many students satisfy this requirement by teaching secondary lessons at the MGSA Music Department (i.e., teaching piano lessons to undergraduate music students who are not piano majors) or by teaching in a supervised setting such as a community music school. Other means of satisfying this requirement may be proposed by the student and evaluated on a case-by-case basis by the student's major teacher in consultation with the graduate coordinator.

The graduate programs of the Department of Music are designed to prepare musicians and scholars for successful professional lives in the musical world. A major component of this endeavor involves supporting students as they pursue relevant professional activities and grow their network while enrolled in the program. To that end, students are strongly encouraged to pursue professional opportunities and are supported by the department in engaging with work relevant to their studies. Students who engage in outside work may register for one of the Practical Training courses (08:702:597, 598, or 599) in order to receive formal department approval and acknowledgment for these pursuits. While different students will be afforded different opportunities according to their skills, network, and goals, this professional development is an expected component of the experience of all Department of Music graduate students.

Foreign Language

The program requires a reading knowledge of French, German, or Italian. Voice students must also show diction/ International Phonetic Alphabet (I.P.A.) proficiency. The student must take the language proficiency test before taking comprehensive examinations. Students may also satisfy the foreign language requirement by completing the summer language course offered by the School of Arts and Sciences through the School of Graduate Studies with a grade of B+.

Comprehensive Examinations

Candidates must pass written and oral comprehensive examinations in the literature for their instrument and related issues in history, theory, and performance practice. Specific information related to the scope and particulars of the comprehensive exams are given to students by the graduate coordinator.

D.M.A. Examination Procedures

The committee evaluating written examinations for D.M.A. students consists of two members selected by the area head. In some situations, a third reader may also be asked to evaluate the examination. The Oral Examination Committee is normally comprised of the major teacher, another performance faculty member from the student's area, the lecture-recital adviser, another member of the academic faculty (theory, composition, musicology), and the graduate coordinator. Each area reserves the right to request the appointment of additional members to the committee. Students should contact the graduate coordinator and the major teacher to determine the exact makeup of the committee.

The committee's decision on the results of the written comprehensive exam shall be by an evaluation rubric. A student who has failed is provided with an explanation in writing as part of the notification. The committee will provide the candidate with guidelines for the areas in which it found the candidate's performance to be unsatisfactory. Reexamination may take place two months after a failed attempt. Unless the student can show a procedural fault occurred in the examination process, he or she may take only two reexaminations. If a student

believes that a flaw in the process led to a negative decision, he or she must file a written appeal to the director of the Department of Music, who brings the issue to the Graduate Oversight Committee. That committee resolves the dispute by a majority vote.

Doctor of Musical Arts Program (MGSA)

Music Education Track

Music Education Track

The doctor of musical arts (D.M.A.) in music education is a research degree designed for professional music educators who wish to pursue advanced scholarly inquiry while expanding their perspectives on music education. Doctoral students in music education broaden their knowledge of current music education research and practice, either to advance in their teaching/supervisory positions or to prepare for a career in higher education.

The degree requires a minimum of 57 semester hours of graduate coursework beyond the master's degree. Courses are offered by the Department of Music and the Graduate School of Education and include advanced studies in research, music education, curriculum and pedagogy, music theory, and music history. Students complete 12 credits in a cognate area of their choice, such as: educational administration, teaching with technology, special education, conducting, musicology, composition, or another topic. All cognates require music education faculty approval, and some require auditions. After successfully passing comprehensive examinations, a student's study culminates in 12 credits of dissertation research leading to a dissertation on a topic related to music education. Dissertations may be historical, philosophical, empirical, or curricular in nature. There is no foreign language requirement.

It is expected that the degree requirements for this program will be completed in five years of continuous enrollment; a maximum of eight years is allowed. Students are not required to maintain a full-time residency but must enroll in at least one 3-credit course each semester prior to dissertation research.

Required Course of Study

All requirements for the D.M.A. degree may be completed within five years of continuous enrollment. They must be completed within eight years. With the approval of the graduate coordinator, the Graduate Oversight Committee, and the dean, the school may extend this maximum limit. Upon matriculation, the student must enroll in a minimum of 3 credits each semester until the degree is completed. One semester's leave, which may be taken at any time during the course of study, is allowed. Permission for the leave must be arranged in advance with the graduate coordinator. Additional leaves will be permitted only in extraordinary circumstances.

The following requirements must be met:

1. Research and music education courses: 21 credits (12 credits of required classes and 9 credits of electives)

Required Courses

08:702:614 Graduate Research in Music Education (3)

08:702:640 Doctoral Seminar in Music Education Curriculum (3)

16:300:509 Qualitative Research Methods in Education (3)

16:300:511 Quantitative Research Methods in Education (3) OR 15:291:531 Statistical Methods in Education (3)

Electives in Music Education: Students will choose three courses (3 credits each) from the following:

08:702:513 Historical and Philosophical Foundations of Music Education (3)
08:702:516 Culturally Responsive Pedagogy in Music Education (3)
08:702:531 Wind Band Literature for Graduate Music Educators (3)
08:702:533 Advanced Conducting in Music Education (3)
08:702:538 Proseminar in Music Education (3) (may be repeated with different content)
08:702:544 Advanced Topics in General Music (3)
08:702:545 Psychology and Sociology of Music Education (3)
08:702:572 Seminar in Choral Literature for Music Educators (3)
any education research course for which the student is eligible (3)

Students should choose from the courses listed above, remembering that 538 may be repeated with differing content.

2. Music courses: Two courses (6 credits) in graduate-level music theory and two courses (6 credits) in graduate-level musicology.

3. Cognate: The cognate is an area of study related to the field of music education in some fashion. Students may choose from topics such as performance, composition, musicology, educational administration, etc. Lessons, if available, may not be taken without participating in a large ensemble. Students must propose a plan for the cognate area to the head of music education for approval prior to enrolling in any cognate courses. A maximum of 4 credits of ensemble may count toward this requirement. Upon declaring a cognate area, students must meet any specific entrance requirements and prerequisites for that area (12 credits).

4. Dissertation: Students are required to undertake an individual project that is designed and approved in consultation with a faculty adviser. The focus and scope of the project will depend on the student's interests and skills (12 credits). See below for further description.

Comprehensive Examinations

Candidates must pass written comprehensive examinations in music education. Reexamination and appeal procedures mirror those established for the D.M.A. in performance.

Dissertation

A dissertation consisting of original research related to music education and developed under faculty direction is required. After successful completion of the written comprehensive examination, students work with a faculty advisor to develop a three-chapter dissertation proposal. Once the document is prepared, a proposal defense can be scheduled. A five-member committee hears the presentation of the proposed dissertation. The committee will include the graduate coordinator, two members of the music education faculty (one of whom will serve as chair), one member of the Department of Music musicology or music theory faculty, and one outside reader. The graduate coordinator, in consultation with the student's adviser, appoints the outside reader. This person is expected to be a recognized authority on the subject of the dissertation. Following proposal approval and completion of the five-chapter dissertation, an oral defense of the dissertation is held.

Doctor of Musical Arts Program (MGSA)

Scholastic Standing

Scholastic Standing

Graduate courses require a minimum grade of B to count toward degree requirements. However, DMA students (other than piano majors) may count one course with a grade of C or C+ toward degree requirements, though this opportunity is not available for C/C+ grades earned in Applied Lessons, Conducting Lessons, or Ensemble Requirement courses. Piano majors may not count any C or C+ toward degree requirements.

Students are considered to be in good standing in the program and to be making satisfactory progress toward their degree unless they are officially notified to the contrary by the graduate coordinator under advice of the Graduate Oversight Committee. In performance areas, the committee regularly reviews a student's contribution to ensembles and other departmental activities. It also looks at any concerns that the faculty might have about the student's level of performance. The committee may recommend continuation, probational continuation with possible loss or reduction of any financial aid, or dismissal from the program for artistic or academic reasons. In performance areas, the student must perform before a jury at the end of every semester, except for those in which a degree recital has been presented satisfactorily.

A student may appeal a recommendation for probational continuation or dismissal to the dean of Mason Gross School of the Arts. If the dean upholds the judgement of the Graduate Oversight Committee, there is no further appeal.

Doctor of Musical Arts Program (MGSA)

Transfer Credit

Transfer Credit

Students in the Doctor of Musical Arts degrees in Performance and Conducting my petition to transfer a limited number of credits to fulfill curricular requirements of the DMA.

If a student has earned credits toward a DMA at another institution, they may petition to transfer up to nine of those credits, subject to limitations below and the judgment of the Graduate Oversight Committee.

If a student has, while in their masters-level study, taken coursework in excess of academic coursework required for that degree, they may request to transfer up to three credits of academic coursework, subject to the limitations below and the judgement of the Graduate Oversight Committee. The coursework in question must have been taken beyond the requirements for the student’s masters-level study (i.e. the student took an extra academic course during master’s study)

In both cases above, students may only transfer such credits after they have completed twelve credits in graduate courses at Rutgers. The following criteria must be met: the student received a grade of a B or above in all graduate academic courses (not just those courses being considered for credit transfer). In general, the Department of Music

does not allow online courses to be transferred, nor are performance study (lessons) credit, ensemble credit, or undergraduate credit to be transferred. Therefore, only academic courses, specifically graduate courses that are equivalent to those required at Rutgers, may be transferred.

Approval of transfer credit is determined by the Graduate Oversight Committee.

Students in the D.M.A. degree who have taken an equivalent course to 08:702:501 or 16:700:567, 568, may substitute an elective in lieu of a requirement to take these classes as part of the D.M.A. degree.

Artist Diploma Program (MGSA)

ARTIST DIPLOMA PROGRAM

Artist Diploma in Performance

The artist diploma (A.D.) program in performance addresses the needs of those who wish to concentrate more narrowly on performance-related study than does the doctor of musical arts (D.M.A.) student. This course of study requires six semesters of performance, six semesters of large ensemble, six semesters of chamber ensemble, and one semester of repertory/literature. Pianists complete six semesters of studio accompaniment instead of six semesters of large ensemble. Additionally, students must pass an Oral Exam at the end of the program. The A.D. program does not require formal coursework in music history or theory. Students must perform five recitals, four of them solo and one a chamber recital. Students must have a master of music (M.M.) degree or its equivalent to gain admission to the program. It is possible to complete all requirements for the artist diploma program within three years of full-time residence. A student may not take more than five years to complete the program. With the approval of the graduate adviser, the Oversight Committee, and the dean, the school may extend this maximum time limit.

Artist Diploma in Opera

A total of 32 credits for the A.D. is required, distribution as follows:

1. Four semesters of performance study (12 credits) culminating in two role performances or roles study (1 credit each). These performances are evaluated by a faculty committee consisting of the student's major teacher and two additional faculty members approved by the graduate adviser. The student must receive a passing evaluation from a majority of the committee members.

2. Four semesters of ensemble (Opera Workshop - 4 credits)

3. Four courses (4 credits) in Graduate Diction: one semester each of English, French, German, and Italian

4. Two courses (2 credits each) Acting for Singers

5. Two courses (2 credits each) Movement for Singers

6. One course (1 credit) Seminar in Vocal Health

7. One course (1 credit) Business of Opera

In addition, all students must pass an oral examination based on the coursework included in the degree program. Normally, the student will receive the results of this examination within 15 working days. A student who fails this examination is provided with a written explanation as part of this notification. He or she will then have the chance to take a reexamination. Reexaminations occur at the next regularly scheduled test period. Unless a procedural flaw occurs in the reexamination process, a student is permitted to take only one reexamination.

Candidates must also demonstrate translation abilities in two languages, and proficiency in diction/International Phonetic Alphabet (I.P.A.) in French, German, Italian, and English.

Music Graduate Courses (MGSA)

MUSIC GRADUATE COURSES

Music History and Theory Courses Offered through the School of Graduate Studies (700)

Music History and Theory Courses Offered through the School of Graduate Studies (700)

16:700:501 ***Introduction to Music Research (3)***
Introduction to bibliographical tools and research techniques for scholars and performers. The primary aims of the course are to develop a critical attitude toward the manuscripts and editions used for performance and study, as well as an understanding of the methodological issues relevant to writing about music.

16:700:502 ***(S) Current Issues in Musicology (3)***
Issues and debates within the current discipline of musicology via examination and discussion of recently published books and journal articles.
Prerequisite: 16:700:501.

08:702:503 ***Current Issues in Ethnomusicology (3)***
Introduction to the theory and methodology of ethnomusicology, current issues, and intellectual history.
Prerequisite: Permission of instructor.

16:700:504 ***Current Issues in Music Theory (3)***
Issues and debates within the current discipline of music theory via examination and discussion of recently published books and articles.
Prerequisites: Permission of the instructor and graduate director.

16:700:504 ***Current Issues in Contemporary Music (3)***
Issues and debates within the current disciplines of contemporary music via examination and discussion of recent compositions, performances, and recordings.
Prerequisites: Permission of the instructor and graduate director.

16:700:509 ***(F) Music History Review (3)***
This course surveys the history of Western art music from the beginning of the Baroque era to the present, with emphasis on the "core repertoire" of the "common practice era" (c. 1700- 1920). It is intended to reinforce previous undergraduate study in music history. In addition to the development of musical styles and genres, the course will consider the relationship of music to political, social, and cultural history. A closer study of selected musical works will complement the learning of general historical content in class discussion and through readings from an assigned textbook. Assessment will consist of written examinations (midterm and final), as well as a series of listening quizzes requiring identification of assigned repertoire.
For students who do not pass the Graduate Music History Diagnostic Examination to serve as a prerequisite for graduate-level Musicology courses. This course does not satisfy a graduate-level course requirement.

16:700:511 ***(F) Music Theory-Intensive Review (3)***
Review of harmony (part-writing and progressions); counterpoint (two- and three-part species counterpoint, including imitation); and harmonic analysis. This course does not fulfill regular theory requirements. It serves strictly as a preparation for the graduate theory courses.

16:700:515,516 ***Sound Synthesis and Computer-Assisted Composition (3,3)***
Analysis of sound and timbre. Use of the computer for musical composition.
Prerequisite: Permission of instructor.

16:700:517 ***The History of Musical Style (3)***
Aspects of convention and innovation in composer's approach to sonority, harmony, melody, rhythm, and form in representative vocal and instrumental compositions from different historical periods in the Western tradition, ca. 1600-1950.
Prerequisite: Permission of instructor.

16:700:519,520 ***Proseminar in Music History (3,3)***
Intensive study of selected areas in the history of music, with guided research leading to oral and written reports.
Prerequisite: 16:700:501.

16:700:522 ***Canon and Fugue (3)***
Exercises in polyphonic techniques based on practices from the Renaissance to the tonal period.

16:700:525,526 ***Studies in Music Analysis (3,3)***
Study of styles and structures in compositions from the Middle Ages to the present and their relationship to ideas on composition held by composers and theorists.

16:700:527 ***Studies in Opera (3)***
Study of selected operas. Historical background, sources, editions, textual criticism, analysis, and performance practice.
Prerequisite: Permission of instructor.

16:700:528 ***Studies in Choral Literature (3)***
Study of selected works for chorus and vocal ensemble from the 16th century to the present. Historical background, sources, editions, textual criticism, analysis, and performance practice.
Prerequisite: Permission of instructor.

16:700:529 ***Studies in Instrumental Ensemble Literature (3)***
Study of selected chamber and orchestral works from the 17th century to the present. Historical background, sources, editions, textual criticism, analysis, and performance practice.
Prerequisite: Permission of instructor.

16:700:530 ***Studies in Keyboard Literature (3)***
Study of selected works for keyboard instruments. Historical background, sources, editions, textual criticism, analysis, and performance practice.
Prerequisite: Permission of instructor.

16:700:531,532 ***Proseminar in Composition (3,3)***
Practice in the techniques of creative composition.

16:700:541,542 ***Special Topics in Music Theory and Analysis (3,3)***
Recent developments in music theory and 20th-century analytical techniques. Topics vary from year to year.
Prerequisites: 16:700:525,526.

16:700:551 ***Jazz Research and Analysis (3)***
Introduction to scholarly research in jazz. Covers research methods, transcription, and analysis of recorded jazz performances; pertinent African-American cultural issues; and questions of performance practice.
Prerequisite: 16:700:501. Recommended as pre- or corequisite: 16:700:525.

16:700:567,568 ***Proseminar in Performance Practice (3,3)***
Problems of performance practice in vocal and instrumental music from two different periods: 17th and 18th centuries, and 19th century.
Prerequisite: Permission of instructor.

16:700:571-572 ***Schenkerian Analysis (3,3)***
Analytic applications of Heinrich Schenker's notational graphing techniques for understanding structural and harmonic/contrapuntal aspects of tonal music.
Prerequisite: Permission of instructor.

16:700:573,574 ***Twentieth-Century Theory (3,3)***
Analysis of selected compositions from ca. 1910 to the present. Theoretical strategies and perspectives.
Prerequisite: Permission of instructor.

16:700:601 ***Independent Study (BA)***
Individual research leading to an essay demonstrating command of the techniques of historical or analytical research.

16:700:603 ***Masters Project (BA)***
Individual research leading to the capstone requirement for one of the MA degree programs.

16:700:619,620 ***Seminar in Musicology (3,3)***
Doctor-level intensive study of selected areas in musicology, with guided research leading to oral and written reports.
Prerequisite: 16:700:501. For students pursuing the Ph.D.

16:700:631,632 ***Seminar in Composition (3,3)***
Advanced study of the techniques of creative composition.
For students pursuing the doctoral degree.

16:700:652 ***(S) History of Music Theory and Notation (3)***
Intensive study of selected sources from antiquity to the 20th century, with emphasis on medieval and Renaissance notational systems, church modes, the teaching of counterpoint, and theories of tonality.
Prerequisite: Permission of instructor.

16:700:701,702 ***Research in Music (BA)***
Individual research leading to the a Master's Thesis or Doctoral Dissertation

Graduate Music Courses Offered through Mason Gross School of the Arts (702)

Graduate Music Courses Offered through Mason Gross School of the Arts (702)

08:702:502 ***Art Song Repertoire (3)***
Study and performance of 19th- and 20th-century art songs. Includes historical development and discussion of composers and poets, research papers, assigned readings, and listening assignments. In-class performances.
Prerequisite: Open to piano and voice majors, or with permission of instructor.

08:702:506 ***(F) Writing About Music (BA)***
A proseminar that offers graduate music students (primarily international) practice in the language and discourses of academic writing as they develop and revise a series of essays. This class serves a purpose to prepare students for advanced seminars in their respective degrees and for their professional lives by helping to comprehend and engage with complex readings; articulate independent arguments; and support them through textural engagement, organized ideas, and clear, incisive prose. This course is an addition to the regular requirement and is based on the results of the examination taken at the graduate audition.

08:702:507,508 ***Score Reading (1,1)***
Practical application of score reading at the piano. Includes realization of figured bass, study of C clefs, and open-score techniques.

08:702:509 ***Special Studies in Piano Repertoire I (2)***
An in-depth study of the core literature for the keyboard instruments including works for solo piano and piano and orchestra from the early baroque, classical, and early romantic periods. Includes intensive study and performance of works by major composers and their contemporaries. Explores the evolution of the piano as a solo and as an ensemble instrument.

08:702:510 ***Special Studies in Piano Repertoire II (2)***
An in-depth study of the core literature for the keyboard instruments including works for solo piano and piano and orchestra from the late romantic period to present times. Includes intensive study and performance of works by major composers and their contemporaries. Explores the evolution of the piano as a solo and as an ensemble instrument.

08:702:511 ***Special Studies in Piano Repertoire III (2)***
Course explores the historical, theoretical, and applied aspects of piano pedagogy.

08:702:513 ***Philosophical Foundations of Music Education (3)***
Significant philosophical positions that have influenced contemporary music education; the history and purpose of music in education; current curriculum models and theories; and teaching strategies.

08:702:514 ***Graduate Research in Music Education (3)***
Design, analysis, and evaluation in music education. Recent research, planning, and development of an independent project.
Intended for M.M. students in music education.

08:702:515 ***Graduate Piano Pedagogy (2)***
An exploration of advanced topics in piano pedagogy.

08:702:516 *Culturally Responsive Pedagogy in Music Education (3)*
This course focuses on the history, current discourse, and application of culturally responsive pedagogy to all forms of music education learning PK-12 and collegiate. In particular, this course addresses important issues of diversity, equity, inclusion, and access in music teaching and learning by placing the students in the music room at the center of curricular decision-making. This course requires students to apply theory in culturally responsive pedagogy to a variety of PreK-12 and undergraduate music learning contexts

08:702:517 ***Vocal Health (1)***
This course is an integration of vocal anatomy and physiology, vocal pedagogy, voice therapy, and vocal health for singers. It will include presentations and discussions on selected topics related to voice and chapter reviews directly related to practical application. This class is intended for graduate students in the opera and voice programs.

08:702:519 ***Historiography of Black Music I (3)***
This course explores the historiography of black music: the ways in which history of this repertoire has been constructed, the voices that have told the story and those whose views have been silenced, and the issues that appear to be absent from the narrative commonly told. Engaging with standard narratives of jazz history, but expanding our view beyond those, students will use their own research to offer thoughtful revisions to our current understanding and contribute newfound knowledge to the discussion through critical inquiry. This course is the first in a two-semester sequence in Jazz Historiography and is required from Mason Gross School of the Arts (MGSA) jazz M.M. students. It is open to graduate students in other MGSA music programs as an elective.

08:702:520 ***Historiography of Black Music II (3)***
This course explores the historiography of black music: the ways in which history of this repertoire has been constructed, the voices that have told the story and those whose views have been silenced, and the issues that appear to be absent from the narrative commonly told. Engaging with standard narratives of jazz history, but expanding our view beyond those, students will use their own research to offer thoughtful revisions to our current understanding and contribute newfound knowledge to the discussion through critical inquiry. This course represents the second semester of a two-semester sequence in Jazz Historiography and is required from Mason Gross School of the Arts (MGSA) jazz M.M. students. It is open to graduate students in other MGSA music programs as an elective.

08:702:521,522 ***Introduction to Graduate Studies in Jazz (3,3)***
Major topics in jazz studies, approached from the points of view of scholars and performers, encompassing review and modern perspective of jazz history. Topics include African-American culture, methods of historical and biographical research, bibliography, discography, problems of transcription, analytic techniques, and jazz education.
May be held at the Institute of Jazz Studies, Rutgers University-Newark.

08:702:523,524 ***Jazz History and Research (3,3)***
Intensive study of periods and styles of jazz from New Orleans to the present.
May be held at the Institute of Jazz Studies, Rutgers University-Newark.

08:702:525-526 ***Seminar in Jazz Arranging and Composition (3,3)***
Intensive study of jazz arranging and composition. Score study and analysis, transcriptions and arranging for small and large ensembles, and commercial arranging.

08:702:527,528 ***Advanced Improvisation (3,3)***
Advanced study of stylistic improvisation. Emphasis on major periods of jazz and other contemporary practices.

08:702:531 ***Wind Band Literature for Graduate Music Educators (3)***
The task of choosing appropriate quality literature for bands is challenging for both young and experienced directors. The challenge is magnified by the many varied demands and responsibilities that fill a limited time schedule, and by the enormous amount of superficial publications that are released each year. This course will briefly explore research that outlines the criteria of artistic merit that helps identify and define the great standard wind band works. We will then examine a number of works for elementary, middle, and high school band (grades I-V) that are regarded as works of artistic merit and are considered standard repertoire. Repertoire sources, curricular and programming ideas, and a historical review are also included.
Online course.

08:702:532 ***Modal Composition and Tonal Analysis for Graduate Music Educators (3)***
This course, which is designed for music education majors, explores important topics in music theory from the Medieval period through the 18th century. Beginning with the development of notation, we will follow the progression of Western music from chant through the beginning of the Common Practice period. While this is not a class on the history of theory, we will be reading and discussing the major theorists of the 16th, 17th, and 18th centuries. There will be an emphasis on the practical application of the concepts studied in class, as students will learn the fundamentals of 16th- and 17th-century counterpoint, realize figured bass in four-part voice-leading, and complete formal analysis of music from the Baroque and early Classical periods.
Online course.

08:702:533 ***Advanced Conducting in Music Education (3)***
This graduate course develops advanced skills necessary for instrumental and vocal conductor-teachers in K-12 schools, including but not limited to: conducting gesture, verbal communication, musical vocabulary, score analysis, pacing, planning, and sequencing. Students in this class should have some previous experience with conducting (directing a school or professional ensemble) and should have taken at least one conducting course as part of their undergraduate degree.

08:702:536 ***Cognitive Approaches to Music Learning Online (3)***
Cognitive psychology is a broad subdiscipline within the larger field of psychology that concentrates on the study of mental processes. The range of subjects covered will include attention, memory, problem solving, imagery, optimal

experience, knowledge representation, language, and comprehension. This course will provide an overview of the field especially as it applies to music and music education. To provide greater depth, the second half of the course will focus on study of one subdiscipline: varying theories about individual differences.
Online course.

08:702:537 ***Behavioral Approaches to Music Learning Online (3)***
Intensive study of behavioral teaching techniques in music education, with guided research leading to oral and written reports. Students will show evidence of critical thinking concerning the teaching of music by verbalizations demonstrating ability to logically analyze, criticize, and/or choose alternatives consistent with a value orientation. By completing various learning activities and projects, students will develop specific techniques related to communication of musical and nonmusical ideas and organization of time and materials for the purpose of facilitating musical learning experiences. Students will cultivate an understanding of human musical behaviors through assigned readings and completion of assignments.
Online course.

08:702:538 ***Proseminar in Music Education (3)***
Intensive study of selected areas in music education, with guided research leading to oral and written reports.
Prerequisite: Permission of instructor.

08:702:541,542 ***Advanced Accompaniment Repertoire (2,2)***
Study and performance of standard vocal and instrumental repertoires from the perspective of the accompanist. Special emphasis on repertoire frequently encountered in auditions and competitions to provide a stylistically broad and immediately applicable repertoire.
Prerequisite: Permission of instructor.

08:702:543 ***Special Topics in Collaboration (1)***
Forum for the exchange of ideas in music and the arts that are collaborative by nature. In consultation with the instructor, students provide presentations on various aspects of collaboration, with a focus on keyboard collaborations.

08:702:544 ***Advanced Topics in General Music (3)***
This course builds on the general music knowledge that students gained in their undergraduate programs and/or through teaching general music. The course will focus on deepening theoretical knowledge and practical skills in the teaching of general music across the K-12 spectrum. Individual themes of focus will enable each student to strengthen areas of general music knowledge that they feel will best serve their careers.

08:702:545 ***Psychology and Sociology in Music Education (3)***
This course is designed to explore music in the human experience, with importance on music in transmission and educational contexts. The course draws on various disciplinary theories and perspectives—among them, music cognition, music education, education (learning theories), social and cultural psychology, and developmental psychology. Emphasis is placed on expanding and deepening knowledge and understanding the processes that support music learning and teaching—through critical reading, seminar discussions, written reflections and reviews, and an in-depth study of a topic chosen by the student.

08:702:550 ***Special Topics in Music History (3)***
Intensive study of selected areas in the history of music with guided research leading to oral and written reports.
Prerequisite: Permission of graduate director.

08:702:551 ***Instrumental Literature: Winds, Brass, and Percussion (3)***
Study of large and small ensemble music for winds, brass, and percussion from the late Middle Ages to the modern era.
Prerequisite: Permission of instructor.

08:702:552 ***Orchestral Literature (3)***
Survey of major works through analysis and performance. Includes study of bibliography, historical context, and performance practice.
Prerequisite: Permission of instructor.

08:702:553 ***Wind Literature (3)***
The course is a review of literature for winds and brass from antiquity to the present and will focus on both small-ensemble and large concert-band repertoire. Mixed in along the way are fun tips and techniques for performance. Intended for M.M. and D.M.A. students who might find themselves teaching college-level courses in the future.

08:702:555 ***Business of Opera (1)***
The singer's guide to a career as a performer. The course will ensure the understanding of the various facets of the opera business from the singers, producers, supportive fields, and audience's viewpoints as well as provide the necessary tools for a mock business plan for either an individual artist or professional company.

08:702:560 ***Music Theory Pedagogy (3)***
Practical and effective approaches to teaching college-level music theory including written theory, aural skills, rudiments for nonmajors, syllabus preparation, and textbook evaluation.

08:702:570 ***Introduction to Graduate Studies (3)***
A course designed to stimulate an interest in systematic inquiry in music education, know how to transfer knowledge of one concept to another area of learning, and be able to understand the thought processes necessary for strong music curriculum development, assessment, sequencing instruction, and feedback. Students will be challenged to critically think about how they approach the ideas of teaching and learning.
Online course.

08:702:571 ***Graduate Inclusive Learning in Music Online (3)***
This course explores disability in the context of music education. The course focuses on the history of disability in the U.S., as well as current discourse in Disability Studies, and music teaching and learning with disabled musicians. Topics include U.S. legislation pertaining to the education of individuals with disabilities, ableism and models of disability, Universal Design for Learning (UDL), and adaptation and modification for the music classroom. The course also explores the intersectionality of disability with race, culture, socioeconomic status, and gender and how that may impact teaching and learning. Students in the course are encouraged to interrogate their own beliefs about students with disabilities in music. They also reflect on PreK-12 teaching experiences to consider ways to incorporate UDL and other inclusive strategies to increase access to music.
Online course.

08:702:572 ***Seminar in Choral Literature for Music Educators (3)***
The objective of this course is to help students develop skill in logical analysis, critique, and decision-making related to repertoire selection that is founded upon and consistent with some value orientation. The course is designed to allow students to develop specific selection techniques and an expanded repertoire of source materials directly

related to various levels of school choirs. It seeks to teach students how to construct choral programs (for performances) with music appropriate for ensembles of various ages and levels of ability.
Online course.

08:702:573 ***Studies in Form and Analysis for Graduate Music Educators (3)***
The goal of the course is to explore the relationship between form (phrases, motives) and structure (harmony, key areas, modulations) as they relate to the standard forms of the common practice period, and to learn to make accurate formal analyses and present them in clear and effective essays. Students will analyze compositions and demonstrate key concepts through formal diagrams, short essays, and analytical papers.
Online course.

08:702:574 ***Teaching Music Across the Curriculum (3)***
This course addresses fundamental issues of teaching and learning in music across the curriculum. In this course, students draw on scholarly literature, musical events, and our own personal experiences to reflect on what is compelling and significantly educational about music and its inclusion in the school. Students discuss music teaching and learning occurring in formal and informal settings and will examine music learning in stand-alone, integrated, and field-trip learning. A focus of the course will be on the "connecting" standards and their application in varied musical contexts. Aesthetic literacy, arts integration, and pedagogy are the focus of this course.
Online course.

08:702:575 ***Integrating Technology into the Music Curriculum (3)***
This course provides experience with the three major types of use of technology by music teachers and students: preparing teaching materials, leading class activities, and student uses of technology. The course is based on the belief that technology can: provide tools and resources for helping students become active agents in the growth of their music knowledge, attitudes, and skills; make a contribution to helping students make progress toward achieving the National Standards in music; and contribute to the development of new models of music learning.
Online course.

08:702:576 ***Historical and Philosophical Foundations of Music Learning (3)***
The course offers an overview of significant historical and contemporary philosophical positions that have influenced music education, especially as they relate to the purpose of music in education, current curriculum models and theories, and teaching strategies. Much of the course will be devoted to discussion of possible directions for music education based upon past and current paths. Many of the discussions will be rooted in the sometimes-conflicting philosophies presented by Bennett Reimer and David Elliott.
Online course.

08:702:577 ***History of the Western Canon for Graduate Music Education Online (3)***
This course is a chronological music history survey encompassing all eras of Western music history, from c.1000-1950. We will study the social, cultural, and historical contexts in which music was composed and performed, focusing primarily on art music in Europe and the United States. We will examine the stylistic features, forms, and performance practices typical of each era, and how these relate to the wider context of the time. We will discuss how these features evolved over time, and how this evolution was conditioned by the changing context and expressive goals of composers and performers. Finally, we will place the music in the context of other contemporaneous artistic movements. This course has been designed to meet two goals: 1) to allow students to study and discuss major works in the Western art music canon; and 2) to allow students to study and discuss works of an appropriate level for the students they teach. Accordingly, each unit will have two components: study and

discussion of the works listed on this syllabus, followed by study and discussion of works chosen and presented by the students in the class.
Online course for the arts online M.M. degree only.

08:702:578 ***American Popular Music for Music Education Online (3)***
The study and performance of popular music genres has steadily gained traction in undergraduate curricula over the past three-plus decades, finding its way into K-12 education in recent years. This course is designed to give music educators a foundation in the history and performance of, and scholarly debates surrounding, popular music of the United States in the twentieth century—including by not limited to (sub) genres such as the blues, jazz, rock 'n' roll, country, soul, reggae and hip-hop. The course opens with an introduction to the interdisciplinary field of popular music studies, including discussions of the ways genre; identity and difference; transnationalism and globalism; industry and commerce; and technological innovations impact the ways in which we understand popular music. This is followed by discussions of the core instruments, musical structures, and expressive tendencies common in popular music styles of the twentieth century. The balance of the course centers around genre-specific case studies to further explore the social, cultural, political, and musical conditions that influenced the development of various styles and trends in pop music history.
Online course.

08:702:579 ***Musical Practices of the World for Music Education Online (3)***
The scope of this course was created to introduce students to the discipline of ethnomusicology as a means through which to learn about musical practices from different regions of the world, as well as music related to students' own background and experience. This course will provide students with a working knowledge of the discipline of ethnomusicology including its intellectual history, major theoretical premises, analytical techniques, and research methodologies. We will explore a diverse set of case studies examining music as social life from different societies throughout the world, and use these as a means to expand upon the broader topics introduced. During this course, students will apply the knowledge they gain, in order to conduct their own ethnographic fieldwork and research, as well as consider the various intersections of ethnomusicology and music education. This course emphasizes reading, writing, original research, and online discussion forums.
Online course.

08:702:580 ***Applied Research in Music Education (Capstone) (3)***
This course focuses on design, analysis, and evaluation of research and scholarly inquiry in music education. Students will consult recent research, demonstrating an ability to evaluate it and utilize its information. Students will also design research, conduct research projects of varying methodologies, write a full research report, and be able to verbally present findings to classmates in an online forum.
Online course.

08:702:597 ***Practical Training - Pedagogical (0)***
Students register for this course when engaging in teaching work that is associated with their major area of study, including work that satisfies the D.M.A. Pedagogical Component requirement.

08:702:598 ***Practical Training - Performance (0)***
Students register for this course when engaging in performance work outside of the school that is associated with their major area of study.

08:702:599 ***Practical Training - Arts Administration Industry (0)***
Students register for this course when engaging in work outside of the school in the field of Arts Administration or other relevant work in the music industry that is associated with their major area of study.

08:702:600 ***Research in Music (BA)***
Individual research in selected areas of music history, theory, performance practice, or music education.
Prerequisite: Permission of instructor.

08:702:603,604 ***Lecture Recital Advisement (1)***
Independent research undertaken in connection with the required lecture-recital. The project culminates with an extensive paper toward completion of the D.M.A. in performance, collaborative piano, and conducting.

08:702:614 ***Graduate Research in Music Education (3)***
Design, analysis, and evaluation in music education. Recent research, planning, and development of an independent project.
Intended for D.M.A. students in music education.

08:702:640 ***Doctoral Seminar in Music Education Curriculum (BA)***
Advanced study of music education curriculum history, theory, and design, as well as current research in music education curriculum and program evaluation.
Prerequisite: 08:702:614 or permission of instructor.

08:702:643 ***Special Topics in Collaboration (BA)***
See 08:702:543 for course description.

08:702:645,646 ***Special Studies in Advanced Solo Instrumental Repertoire (BA,BA)***
Study and performance of instrumental sonatas, concertos, and shorter form works from the 18th to 20th centuries. Special emphasis on orchestral reduction at the piano, interpretation, and collaborative considerations.
Prerequisite: 08:702:541 or 542, or permission of instructor. Open to piano, collaborative piano, and instrumental majors.

08:702:647,648 ***Special Studies in Advanced Vocal Repertoire for Collaborative Piano (BA,BA)***
Study and performance of art song, opera arias, and oratorio excerpts from the 18th to 20th centuries. Special emphasis on interpretation and collaborative considerations.
Prerequisite: 08:702:541 or 542, or permission of instructor. Open to piano, collaborative piano, and instrumental majors.

08:702:701 ***Doctoral Research in Music Education (3)***
Advanced study of historical, philosophical, and empirical research methodologies in music education. Development of critical analysis and research reporting skills leading to preparation of the dissertation topic proposal.
Prerequisite: 08:702:614 or permission of instructor.

08:702:702 ***Dissertation Research in Music Education (BA)***
Individual research leading to an extended essay toward completion of D.M.A. degree in music education.
Prerequisite: Permission of instructor.

Graduate Applied Music Courses Offered through Mason Gross School of the Arts (703)

Graduate Applied Music Courses Offered through Mason Gross School of the Arts (703)

08:703:501 Helix: New Music Ensemble (1,1)

08:703:502 Beginning Organ Skills

08:703:503 RU Baroque Players (1,1)

08:703:504 Rutgers Interactive Music Ensemble (1)

08:703:505 Studio Accompaniment (1)

08:703:506 Graduate Performance Lesson (BA)

08:703:511,512 Kirkpatrick Choir (1,1)

08:703:519,520 Chamber Jazz Ensemble (1,1)

08:703:521,522 Jazz Ensemble (1,1)

08:703:523,524 Orchestra (1,1)

08:703:525,526 Percussion Ensemble (1,1)

08:703:527,528 Brass Ensemble (1,1)

08:703:530 Vocal Coaching

08:702:531 Jazz Ensemble II

08:703:533,534 Voorhees Choir (1,1)

08:703:535 Graduate Diction: English (1)

08:703:536 Graduate Diction: French (1)

08:703:537 Graduate Diction: German (1)

08:703:538 Graduate Diction: Italian (1)

08:703:539,540 University Choir (1,1)

08:703:543,544 Symphony Band (1,1)

08:703:545,546 Orchestra/Wind Ensemble (1,1)

08:703:547,548 Rutgers Sinfonia (1,1)

08:703:549,550 Glee Club (1,1)

08:703:551 Bassoon Reed Making

08:703:552 Oboe Reed Making

08:703:553,554 Opera Workshop (1,1)

08:703:555,556 Chamber Ensemble (1,1)

08:703:557 Acting for Singers (2)

08:703:558 Stage Movement for Singers (2)

08:703:563,564 Conducting (3,3) (First year M.M.)

08:703:575,576 Applied Major Lesson (3,3) (First year M.M.)

08:703:579 Beginning Organ Skills II (1)

08:703:599 Independent Study (BA)

08:703:600 Advanced Performance Study (3)

08:703:601 Performance Project (1)

08:703:619 Jazz Chamber Ensemble

08:703:631 Castleton Artist Training Seminar

08:703:655,656 Chamber Ensemble (1,1)

08:703:663,664 Conducting (3,3) (Second year M.M.)

08:703:675,676 Applied Major Lesson (3,3) (Second year M.M.)

08:703:699 Independent Study D.M.A. and A.D. (BA)

08:703:701,702 Performance Study D.M.A. and A.D. (BA, BA)

08:703:703,704 Conducting Study D.M.A. and A.D. (BA,BA)

08:703:800 Matriculation Continued (0)

Graduate Programs in Theater Arts (MGSA)

GRADUATE PROGRAMS IN THEATER ARTS

Degree Program: Master of Fine Arts

Chair, Department of Theater Arts: David P. Gordon

Head of Graduate Program in Playwriting: Kathleen Tolan

The Department of Theater Arts at the Mason Gross School of the Arts is dedicated to developing professional artists. Students are provided with an experience that includes intensive studio classes, innovative academic curricula, and groundbreaking, fully supported productions.

Students entering the Mason Gross School of the Arts graduate program in theater arts concentrate on playwriting.

At the core of Rutgers' playwriting program (2.5 years) are the weekly Playwright Seminars, an ongoing class for the duration of the degree in which playwrights deepen their art and hone their craft. Each semester, students will work on a play and play fragments toward developing a portfolio of work. Toward a rich experience of plays and play-making, we read and attend productions at various theaters, mainly in New York City, as well as with theater professionals. Emphasis will be on developing each playwright's unique voice and inclinations. There will be occasional in-class writing and writing assignments, toward exploring new approaches, jump-starting a play, and enriching or unlocking a current play-in-process.

The department's faculty members believe that significant contributions can be made only by artists who possess mastery of their craft and who have an inspiring artistic vision. Standards in the program are high. The faculty focus and attention is on the students' functioning at the highest levels. Therefore, each student is subject to faculty review at the middle and end of every semester. Each student must retain total faculty support to continue in the program.

For up-to-date curriculum and course information, visit the Mason Gross School website.

Members of the Theater Arts Faculty

Theater Arts Admission

Information and Regulations for All Graduate Theater Arts Students

Master of Fine Arts Program

Master of Fine Arts (M.F.A.) Degree Requirements

Theater Arts Graduate Courses

Members of the Theater Arts Faculty (MGSA)

MEMBERS OF THE FACULTY

Department Leadership:

Chair: David P. Gordon

Associate Chair: Christopher Cartmill

Director of Design & Production: Jenn Stauffer

Head of Acting: Cameron Knight

Head of B.A. Theater Program: TBA

Head of Costume Design: Valerie Marcus Ramshur (on sabbatical, 2024/25)

Interim Head of Costume Technology: TBA

Head of Dramaturgy: Christopher Cartmill

Head of Lighting Design: Don Holder

Head of Scenic Design: Lee Savage

Head of Stage Management: Anne McPherson

Head of Technical Direction: Jenn Stauffer

Head of M.F.A. Playwriting: Kathleen Tolan

Professors:

David Esbjornson, B.A., Gustavus Adolphus; M.F.A., New York

Associate Professors:

Ellen Bredehoft, B.F.A., Idaho, M.F.A., Boston

Christopher Cartmill, B.A., Washington and Lee; M.F.A., Virginia

David Gordon, B.F.A., New York

Don Holder, B.S., Maine; M.F.A., Yale; Honorary Doctor of Arts, Muhlenberg College

Marshall Jones III, B.A., Rutgers; M.A., New York

Cameron Knight, B.F.A., Michigan (Flint); M.F.A., Delaware

Jenn Stauffer, B.A., Macalester College

Kathleen Tolan, B.A., SUNY (Empire State College); M.F.A., Brooklyn College

Assistant Professors:

Deb Jackel, B.F.A., Rutgers

Danielle Liccardo, London Academy of Music and Dramatic Art

Anne McPherson, B.A., Reed College; M.F.A., Yale

Valerie Marcus Ramshur, B.A., Bennington College; M.F.A., New York

Lee Savage, B.F.A., Rhode Island School of Design; M.F.A., Yale

Lecturers:

Karen Alvarado, M.F.A., Rutgers

Jen Ash

Valeria A. Avina, B.A., Graceland University; M.F.A., Iowa

Shane Ballard, Fashion Institute of Technology

Jeff Bender, B.F.A, Michigan

William Carden, St. Lawrence, Brandeis

Elizabeth Hope Clancy, B.A., William and Mary; M.F.A., Yale

Chris Cragin-Day, B.A., OK Baptist; M.F.A., Baylor

David Dannenfelser, B.A., William Paterson; M.A., New York, Sarah Lawrence College

Colleen Dolan, B.F.A., Rutgers

Anastasia Ellis

Nick Embree

Emily Hayes-Walsh

Jerilyn Jurinek, B.A., School of the Art Institute of Chicago; M.F.A., Columbia

John Keller, B.A., Holy Cross; M.F.A., Rutgers

Michael McDonald

Kasson Marroquin, B.F.A., North Texas; M.F.A., Rutgers

Joshua Maywood

David Murin, B.F.A., New York

John Narun

Greg Perri, B.A., Binghampton; M.F.A., Rutgers

Sari Ruskin, B.A., M.A., City College of New York; Ph.D., Long Island

Alexandra Spieth

Cat Tate Starmer, M.F.A., Yale

Ellen Valencia

Denise Wagner, B.F.A., SUNY (Purchase); M.F.A., North Carolina (Chapel Hill)

Christine Whalen, B.A., Rutgers

Antu Yacob, B.A., Minnesota-Duluth; M.F.A., Rutgers

Professors Emiriti:

Lee Blessing, B.A., Reed College; M.F.A., Iowa

Eileen Blumenthal, B.A., M.A., Brown; Ph.D., Yale

F. Mitchell Dana, B.F.A., Utah State; M.F.A., Yale School of Drama

William Esper, B.A., Case Western Reserve; Neighborhood Playhouse School of the Theater; teaching training with Stanford Meisner

Vickie Esposito, B.A., Rutgers; M.F.A., Minnesota

John Jensen, B.S., Oregon; Pratt Institute and Lester Polakof School of Design

Virginia Johnson, B.S., Moorhead State, M.A., Bowling Green

Kevin Kittle, B.A., Caldwell College; M.F.A., Rutgers

Eric Krebs, B.A., M.A., Rutgers

Barbara Marchant, B.A.., Fort Wright College; teaching training with William Esper

Joseph F. Miklojcik Jr., B.S., Northwestern; M.A., Connecticut

R. Michael Miller, B.F.A., M.F.A., Washington

Amy Saltz, B.A., Wisconsin

Theater Arts Admission (MGSA)

ADMISSION

All applicants to the Mason Gross School of the Arts must submit a formal application and fee through Rutgers University. In addition to the university application and fee, all students applying to the Department of Theater Arts at Mason Gross School of the Arts must complete an evaluation of talent (audition or interview). A nonrefundable audition and/or interview fee (in addition to the university's standard application fee) is required prior to the time of the audition or interview. For more information about theater audition and/or interview requirements, scheduling, dates, locations, and audition/interview fee payment, please visit: Admissions.

Students not holding an undergraduate degree in theater may be required to take additional coursework. Transfer credit is not accepted for any graduate-level theater course that fulfills the requirements of the degree.

A TOEFL (Test of English as a Foreign Language) or IELTS (International English Language Testing System) test score is required if your undergraduate education was completed in a non-English speaking country. Please see the Mason Gross School website for required minimum ESL scores and further information.

Information and Regulations for All Graduate Theater Arts Students (MGSA)

INFORMATION AND REGULATIONS FOR ALL GRADUATE THEATER ARTS STUDENTS

Attendance in Conservatory Classes

Attendance in Conservatory Classes

Absence from any theater class is problematic. In the event that an absence is unavoidable, the student must advise the faculty member in advance of the absence. In addition, it is the student's responsibility to discuss the absence with the instructor to determine whether the absence is excused. In some cases, the department may require documentation before excusing an absence. Absences due to illness or family emergency are generally excused.

Students are responsible for making up any missed work and being properly prepared for the next class.

In the Department of Theater Arts, unexcused absences are not permitted in any class. One unexcused absence could result in a drop of grade for the final grade. Three late arrivals are equal to one unexcused absence.

Excessive absences, even if excused, may result in the student being withdrawn from class.

Students may use the University Absence Reporting website. This will generate an email to the instructor informing him or her of the absence. It is the student's responsibility to discuss absences with the instructor before the absence.

Residency

Residency

The master of fine arts degree program requires full-time in-person residency for playwrights. The maximum time for completing the degree is five years from the date of matriculation. Students may get special exceptions to this maximum time limit with approval of both the graduate program director and dean. The total number of degree credits varies according to program concentration (no less than 70 credits). The degree program emphasizes artistic performance and development of technical mastery in their program area.

Artistic Evaluation

Artistic Evaluation

M.F.A. ARTISTIC REVIEW AND DISMISSAL

All M.F.A. students are evaluated at mid-semester and at the end of each semester by the faculty and supervisory staff where appropriate in their concentration. All students are expected to meet a professional standard of work, skill, and discipline. Punctuality and class attendance are mandatory. The faculty, and where appropriate, supervisory staff, is responsible for setting these standards and for guiding and evaluating each student's development. The Head of Concentration will decide, after consultation with the faculty and supervising staff, whether the student will continue in the program.

DEPARTMENTAL M.F.A. GRADING POLICY:

Each discipline identifies courses which are core to the student's concentration. The grading policy for all required courses in the theater department is as follows:

- Students are expected to receive a 'C+' or better in all required theater department courses to maintain good artistic standing in the department.
- A grade of 'C' in one required course is grounds for ***Artistic Warning***.
- Two or more 'Cs' in one semester, or a grade of 'C' in one course over two consecutive semesters is grounds for ***Artistic Probation***.
- Multiple semesters of ***Artistic Warning*** can lead to ***Artistic Probation***.
- There is no grade of 'D' in the graduate program.
- A grade of 'F' or 'U' in one required course, including a thesis project, is grounds for ***Artistic Dismissal***. In the event the student is not dismissed, they will be placed on ***Artistic Probation***. A grade of 'F' will not count towards the degree. The same course, or a comparable course approved by the department, will have to be successfully completed to fulfill the requirement for graduation.
- Multiple semesters of ***Artistic Probation*** can lead to ***Artistic Dismissal***.

M.F.A. ACADEMIC REVIEW AND DISMISSAL

In the M.F.A. program, no student may receive more than 9 credits for courses in which they earned grades of 'C'.

Each discipline's graduate faculty reviews students' performance in the middle of the semester and at the conclusion of each semester. Students who have not maintained satisfactory academic or professional standards in any phase of the program may be dismissed for artistic reasons. Artistic dismissal is subject to review by the Dean of the school.

Official notification of ***Academic Probation***, ***Academic Warning***, or ***Academic Dismissal*** is handled by the Mason Gross School of the Arts Scholastic Standing Committee. A student receiving a notice of ***Academic Dismissal*** may appeal this action only by writing to the Mason Gross Scholastic Standing Committee.

Graduate Credit for Undergraduate Courses

Graduate Credit for Undergraduate Courses

Students may take no more than 9 credits in undergraduate courses at the 300 or 400 level for graduate credit. In addition, they must have written approval from the head of the graduate program to apply these courses to the degree requirements. Undergraduate courses for graduate credit must be indicated on the course registration card by a G prefix.

Student Responsibility to Keep Informed

Student Responsibility to Keep Informed

The Department of Theater Arts makes special demands on students enrolled in the M.F.A. training programs because of the professional nature of the programs and the demands of the profession. Concentration-specific rules and policies are in the Student Handbook Appendix for Acting Students, the Design and Student Handbook Appendix for Production and Design Students (Costume, Set, and Lighting Designers, Costume Technicians, Technical Directors, and Stage Management), the Dramaturgy and Playwriting Appendix. Students are responsible for understanding and following all rules and policies set forth in these documents, as well as those in the graduate university catalog.

Rehearsal and Production Conflict Policy

Rehearsal and Production Conflict Policy

Most students' presence is required for evening and weekend work throughout the production process. Some productions require commitments during holidays, vacation periods, and/or religious holidays. Students are not excused from any responsibilities, rehearsals, or performances for any reason unless specifically approved in advance of the semester and in writing by the Department of Theater Executive Committee. Under no circumstances will students be released from a technical rehearsal, dress rehearsal, or performance. Should a potential conflict not be approved, the student will need to clear that conflict, and their presence will be required.

Program and Class Fees

Program and Class Fees

Some theater department courses charge specific fees for tickets, models, or supplies. Students in acting and design are assessed professional program fees that support professional training and career transition. Should a student leave or be dismissed from the program, all fees are nonrefundable.

Information and Regulations for All Graduate Theater Arts Students (MGSA)

Departmental Scholarships

Departmental Scholarships

Students are expected to be in good artistic and academic standing to receive departmental scholarship or other financial support. Artistic Probation will put a student's support in jeopardy.

Master of Fine Arts Program (MGSA)

MASTER OF FINE ARTS PROGRAM

The master of fine arts (M.F.A.) degree program in theater arts requires full-time in-person residency for playwrights. The maximum time for completing the degree is five years from the date of matriculation. Students may get special exceptions to this maximum time limit with approval of both the graduate program director and dean. The total number of degree credits varies according to program concentration (no less than 70 credits). The degree program emphasizes artistic performance and development of technical mastery in their program area.

Master of Fine Arts Program (MGSA)

Master of Fine Arts (M.F.A.) Academic Performance

Master of Fine Arts (M.F.A.) Academic Performance

In the master of fine arts (M.F.A.) program, no student may receive more than 9 credits for courses in which he or she earned grades of C. Each discipline's graduate faculty reviews students' performance at midsemester and at the conclusion of each semester.

Students who have not maintained satisfactory academic or professional standards in any phase of the program may be artistically dismissed. Artistic dismissal is subject to review by the dean of the school. Official notification of academic probation, academic warning, or academic dismissal is handled by the Mason Gross School of the Arts Scholastic Standing Committee. A student receiving notice of academic dismissal may appeal this action only by writing to the Mason Gross Scholastic Standing Committee.

Master of Fine Arts Program (MGSA)

Thesis

Thesis

Each student is required to submit a thesis as part of the master of fine arts degree requirements in playwriting. Details regarding the form of the thesis, specific requirements for each area of concentration, and the composition of the thesis committee are explained in detail in the *Theater Arts Thesis Guide*, which is available in the theater arts office.

Master of Fine Arts Program (MGSA)

Program in Acting

Program in Acting

Program is temporarily suspended.

Master of Fine Arts Program (MGSA)

Program in Design and Costume Technology

Program in Design and Costume Technology

Program is temporarily suspended.

Master of Fine Arts Program (MGSA)

Program in Directing

Program in Directing

Program is temporarily suspended.

Master of Fine Arts Program (MGSA)

Program in Playwriting

Program in Playwriting

In the master of fine arts (M.F.A.) in theater arts playwriting program, each playwright is encouraged to develop his or her individual voice and to stretch and experiment.

This is a place to hone one's craft, to engage with emerging and established theater artists, and to study the new, the ancient, and the innovative in the unique alchemy of performance.

At the core of the playwriting program are the weekly playwright's seminars, an ongoing class for the duration of the degree in which playwrights deepen their art and sharpen their skills. Each semester, you will develop your portfolio, explore new approaches, and enrich and unlock a current play-in-process. Emphasis is on developing each playwright's unique voice and inclinations.

As part of a rich experience of plays and playmaking, we'll read and attend productions regularly, as well as meet theater professionals. Recent visits have been to Playwrights Horizons, Rattlestick Playwrights Theater, Brooklyn Academy of Music, the Public Theater, Soho Rep, New York Theatre Workshop, the McCarter Theatre, Ensemble Studio Theatre, and MaYi Theater Company.

Playwrights will have a staged reading and a production of their work during the program, with professional directors and in collaboration with student designers, actors, and stage managers. Guest playwrights each year will conduct the playwright's seminar or give separate workshops. Screenwriting and television writing are offered each year, as is writers' workshop, where playwrights explore their works-in-progress with actors and a director.

Master of Fine Arts Program (MGSA)

Program in Stage Management

Program in Stage Management

Program is temporarily suspended.

Master of Fine Arts (M.F.A.) Degree Requirements (MGSA)

MASTER OF FINE ARTS (M.F.A.) DEGREE REQUIREMENTS

Master of Fine Arts (M.F.A.) Degree Requirements (MGSA)

M.F.A. Acting Program Requirements

M.F.A. Acting Program Requirements

Program is temporarily suspended.

Master of Fine Arts (M.F.A.) Degree Requirements (MGSA)

M.F.A. Design Program Requirements

M.F.A. Design Program Requirements

Program is temporarily suspended.

Master of Fine Arts (M.F.A.) Degree Requirements (MGSA)

M.F.A. Direction Program Requirements

M.F.A. Direction Program Requirements

Program temporarily suspended.

Master of Fine Arts (M.F.A.) Degree Requirements (MGSA)

M.F.A. Playwriting Program Requirements

M.F.A. Playwriting Program Requirements

Minimum credits required for graduation is 72. Playwrights should take 14-16 credits each semester to complete the program in 2.5 years.

- Please note: 14 credits per semester will only bring the credit total to 70 in 2.5 years. One or more semesters must be 15 or 16 credits.
- M.F.A. candidates can take a maximum of 22 credits per semester.

REQUIRED COURSES (Must be taken sequentially)

First Year-Fall	**Course #**	**Credits**
Theater History*	08:966:501 or 08:966:695	3
Theater Homeroom	08:966:503	P0
Playwrights Seminar	08:966:531	6
First Year-Spring	**Course #**	**Credits**
Theater History*	08:966:502 or 08:966:696	3
Theater Homeroom	08:966:504	P0
Playwrights Seminar	08:966:532	6

Second Year-Fall	**Course #**	**Credits**
Theater Homeroom	08:966:503	P0
Playwrights Seminar	08:966:531	6
Global Theater I	08:966:567	3
Second Year-Spring	**Course #**	**Credits**
Theater Homeroom	08:966:504	P0
Playwrights Seminar	08:966:532	6
Global Theater II	08:966:568	3

2.5 Year-Fall	Course #	Credits
Theater Homeroom	08:966:503	P0
Playwrights Seminar	08:966:531	6
Performance Project Theater Arts	08:966:703	6 (BA)
Professional Development Seminar	08:966:796	3
Third Year-Spring		
Professional Transition		

*M.F.A. candidates are required to take two semesters of theater history: Theater History I/II (08:966:501/502) or Advanced Theater History (08:966:695/696). Placement will be determined by head of program and head of core curriculum based on the candidate's undergraduate theater history experience.

REQUIRED COURSES (can be taken in any semester, as offered)

Course Name	Course #	Required	Core	Credits
Writers Workshop (one semester required; may be repeated)	**08:966:576-577**	**x**	**x**	**3**
Script in Production (one semester required; may be repeated)	**08:966:581**	**x**	**x**	**BA**
Writing for TV (one semester required; may be repeated) (spring only)	**08:966:582**	**x**	**x**	**3**
Screenwriting (one semester required; may be repeated) (fall only)	**08:966:586**	**x**	**x**	**3**
Actor/Playwright Collaboration (one semester required; may be repeated) (fall only)	**08:966:695**	**x**	**x**	**3**

PLAYWRITING TRAINING CORE

Course Name	Course #	Required	Core	Credits
Playwrights Seminar (repeated each semester)	08:966:531-532	x	x	6
Writers Workshop (one semester required; may be repeated)	08:966:576-577	x	x	3
Script in Production* (one semester required; may be repeated)	08:966:581	x	x	BA
Writing for TV (one semester required; may be repeated) (spring only)	08:966:582	x	x	3
Screenwriting (one semester required; may be repeated) (fall only)	08:966:586	x	x	3
Performance Project Theater Arts (thesis)	08:966:703	x	x	BA

*Script in Production (register when a play is being produced; credits per head of program)

PLAYWRIGHTS CURRICULAR CORE

Course Name	Course #	Required	Core	Credits
Theater History I-II* (fall-spring)	08:966:501-502	x	x	3
Advanced Theater History I-II*	08:966:695-696	x	x	3
Theater Homeroom (repeated each semester)	08:966:503-504	x	x	P0
GIobal Theater I-II (fall-spring)	08:966:567-568	x	x	3
Professional Development Seminar	08:966:796	x	x	TBD

*Theater History I/II (08:966:501/502) or Advanced Theater History I/II (08:966:695/696). Placement will be determined by head of program and head of core curriculum based on the candidate's undergraduate theater history experience.

PLAYWRIGHTS THEATER ELECTIVES*

Course Name	Course #	Required	Core	Credits
Theater Criticism**	08:966:510			3
Directing (fall only)	08:966:520			3
Performance Ensemble	08:966:570			2
Advanced Text: Dramatic Structure (spring only)	08:966:572			2
Avant-Garde Theater**	08:966:601	x	x	3
Introduction to Puppet Theater**	08:966:600			3

*Other electives possible in consultation with head of program.
**Course is not offered every semester. See head of program.

Master of Fine Arts (M.F.A.) Degree Requirements (MGSA)

M.F.A. Stage Management Program Requirements

M.F.A. Stage Management Program Requirements

Program temporarily suspended.

Theater Arts Graduate Courses (MGSA)

GRADUATE COURSES

08:966:501-502 *Theater History I,II (3,3)*
Western theatrical traditions from Greek through contemporary avant-garde theater.
Open only to M.F.A. theater majors or by permission of instructor.

08:966:503-504 *Theater Homeroom (S/U,S/U)*
A weekly multidisciplinary event that will include: sharing of ideas, information, and inspirations; professional and academic panels and workshops; guest artists; discussions and performances.
Open only to and required of all M.F.A. theater majors. Attendance is mandatory and the course is taken for satisfactory/unsatisfactory credit. Course repeated.

08:966:510 *Theater Criticism (3)*
Study of criteria for analyzing and evaluating plays and performances; workshops in critical writing.
Open only to M.F.A. theater majors or by permission of the instructor. Writing sample may be required.

08:966:511-512 *Acting I (4,4)*
Uses improvisation and scene work to build a truthful acting instrument.
Open only to M.F.A. acting majors.

08:966:517 ***Introduction to Stage Lighting (1)***
Technical and mechanical aspects of stage lighting, including electrical theory, practical wiring, equipment maintenance, and safety practice. Applications to stage, TV, film, and touring situations.
Open only to M.F.A. theater majors.

08:966:531-532 ***Playwrights Seminar (6,6)***
Concentrated work in the theory and practice of playwriting. Completion of major dramatic writing projects each semester. Study of dramatic literature. Weekly group meetings supported by weekly individual tutorials.
Open to M.F.A. playwriting majors or by permission of instructor.

08:966:573-574 ***Clothing and Culture (3,3)***
Explores human history through the lens of fashion using a multidisciplinary approach for each period and drawing on art history, anthropology, psychology, economic and political history, as well as sociology to understand the major arcs of fashion and how they reflect the cultural consciousness of their time.
Open to M.F.A. acting majors or by permission of the instructor.

08:966:575 ***Directed Study: Theater Design (BA)***
Special topics in costume, set, or lighting design.
Prerequisite: Permission of instructor.

08:966:576-577 ***Writer's Workshop (3,3)***
M.F.A. playwrights will explore their works-in-process with a director and actors.
Open only to M.F.A. playwriting majors.

08:966:581 ***Script in Production (BA)***
Supervised work revising and perfecting a student-written dramatic script during an actual production.
Open only to M.F.A. playwriting majors.

08:966:582 ***Writing for Television (3)***
Technique and procedures for the creation of comedic and dramatic teleplays. Examination of how TV series are derived and run from season to season. Course repeated.
Open only to M.F.A. playwriting majors.

08:966:585 ***Playwright/Director Relationship (2)***
Playwrights and directors explore and master techniques of collaborating on common projects. Emphasis on consultation and cooperation on such tasks as script interpretation, rewriting, casting, and rehearsal evaluation. Scripts developed in readings and workshops.
Open to M.F.A. playwriting, stage management, and directing majors; or by permission of instructor.

08:966:586 ***Screenwriting (3)***
An introduction to writing for film. Students develop their own screenplays as they examine different styles and genres of the medium. Course repeated.
Open only to M.F.A. playwriting majors.

08:966:591 ***Dramatic Adaptation (3)***
Techniques of selection, analysis, and conversion of literary works in other forms or languages to English language theatrical form. Literary works and stage adaptations examined to ascertain problems and techniques of adaptation.
Open only to M.F.A. playwriting majors.

08:966:599 ***Special Topics in Theater Arts (BA)***
Individually designed projects in research or creative activity.
Prerequisite: Proposed topic approved by a senior theater arts faculty member.

08:966:695,696 ***Seminar: Topics in Theater (BA,BA)***
Special topics in theater as offered.
Open only to M.F.A. theater majors by permission.

08:966:697,698 ***Workshop: Topics in Theater (BA,BA)***
Special workshops and studio courses as offered.
Open only to M.F.A. theater majors by permission.

08:966:699 ***Internship in Theater (BA)***
Internships in theaters and the entertainment industry.
Open only to M.F.A. theater majors by permission.

08:966:703-704 ***Performance Projects: Theater Arts (BA,BA)***
M.F.A. degree thesis projects in acting, directing, playwriting, stage management, and design.
Open only to M.F.A. theater majors by permission.

08:966:796 ***Professional Development Seminar (1)***
Students are provided with a comprehensive integration of career development approaches, entrepreneurial strategies, and explorations of regional, national, and global markets, movements, and players.
Open only to M.F.A. theater majors.

08:966:800 ***Matriculation Continued (0)***
To continue matriculation after completion of coursework for the degree until final thesis is submitted.

08:966:877 ***Teaching Assistantship (BA)***
Registration for semester in which teaching assistantship is assigned. Not for degree credit.

Faculty and Administration (MGSA)

FACULTY AND ADMINISTRATION

Administration

Department of Art and Design

Department of Dance

Department of Music

Department of Theater Arts

Administration (MGSA)

Administration

Dean: Jason Geary

Associate Dean for Academic Affairs: Rebecca Cypess

Associate Dean for Finance and Administration: Judith Zenowich

Associate Dean for Equity: Marshall Jones

Department of Art and Design (MGSA)

Department of Art and Design

Chair: Jacqueline Thaw

Associate Chair: Steffani Jemison

Professors:

Atif Akin, B.S., M.Sc., Middle East Technical (Ankara, Turkey)

Gerry Beegan, M.A., Middlesex (UK)

Barbara Madsen, B.F.A., Brigham Young; M.F.A., Drake

Hanneline Røgeberg, B.F.A., San Francisco Art Institute; M.F.A., Yale

Associate Professors:

Marc Handelman, B.F.A., Rhode Island School of Design; M.F.A., Columbia

Steffani Jemison, B.A., Columbia; M.F.A., School of the Art Institute of Chicago

Julie Langsam, B.F.A., SUNY (Purchase); M.F.A., Queens

Miranda Lichtenstein, B.A., Sarah Lawrence; M.F.A., California Institute of the Arts

Jeanine Oleson, B.F.A., School of the Art Institute of Chicago; M.F.A., Rutgers

Jacqueline Thaw, B.A., Brown; M.F.A., Yale

Didier William, B.F.A., Maryland Institute College of Art; M.F.A., Yale

Assistant Professors:

Mark Thomas Gibson, B.F.A., The Cooper Union; M.F.A., Yale

Heather Hart, B.F.A., Cornish College of the Arts; M.F.A., Rutgers (Mason Gross)

Sue Huang, B.S., Georgetown; M.F.A., California, Los Angeles (UCLA)

Cheon Pyo Lee, B.F.A., The School of the Art Institute of Chicago; M.F.A., Yale, School of Art

Mark McKnight, B.F.A., San Francisco Art Institute; M.F.A., California, Riverside

Tepper Endowed Chair:

Chat Travieso, B.F.A., Maryland Institute College of Art; M.A., Yale

Department of Dance (MGSA)

Department of Dance

The Department of Dance is a member of the National Association of Schools of Dance.

Chair: Gerald Casel
Associate Chair: Barbara Angeline

Professor:

Gerald Casel, B.F.A., The Juilliard School; M.F.A., University of Wisconsin (Milwaukee)

Jeff Friedman, B.A.Arch., Oregon; Ph.D., California (Riverside); C.L.M.A., Integrated Movement Studies Program, Utah

Associate Professors:

John Evans, B.A., Western Washington; M.A., Ohio State

Chien-Ying Wang, A.A., National Taiwan Academy of the Arts (Taipei, Taiwan); B.F.A., Northern Illinois; M.F.A., Ohio State

Assistant Professors:

Ani Javian, B.A., Connecticut College; M.F.A., Ohio State

Alessandra Williams, B.A., Macalester College; M.A., Ph.D., California (Los Angeles)

Associate Professors of Professional Practice:

Frederick Curry, B.A., Alabama (Tuscaloosa); M.A., New York; C.M.A., Laban/Bartenieff Institute of Movement Studies (New York); M.A., New York

Assistant Professors of Professional Practice:

Cristina Marte, B.F.A., Montclair; M.A., New York

Assistant Teaching Professors:

Barbara Angeline, B.A., Dance, California (Irvine); M.A., Dance Education, New York

Sue Barr, B.A., Douglass Residential College, Mason Gross School of the Arts, Rutgers; M.F.A., Mason Gross School of the Arts, Rutgers

Pam Tanowitz, B.F.A., Sarah Lawrence College; M.F.A., Ohio State

Department of Music (MGSA)

Department of Music

The Department of Music is a member of the National Association of Schools of Music.

Distinguished Professors:

Conrad Herwig, B.A., Goddard College; M.A., Queens (Canada)

Nancy Yunhwa Rao, B.A., National Taiwan Normal; M.M., Ph.D., Michigan

George B. Stauffer, B.A., Dartmouth; M.A., Bryn Mawr College; M.Ph., Ph.D., Columbia

Professors:

Robert L. Aldridge, B.A., Wisconsin (Madison); M.A., M.M.A., New England Conservatory; D.M.A., Yale

Ralph Bowen, B.M., M.M., Rutgers

Eduardo Chama, B.A. Mus., M.A. Mus., Jerusalem Academy of Music and Dance (Israel)

Amanda Eubanks Winkler, B.M., Illinois State; M. A., Ph.D., Michigan

Kynan Johns, B.M., Adelaide (Australia)

Douglas Johnson, B.A., Hamilton; M.A., Ph.D., California (Berkeley)

Min Kwon, B.M., Curtis Institute of Music; M.M., D.M.A., Juilliard

Associate Professors:

Stephanie Cronenberg, B.M.E., Wingate; M.A., Maryland; Ed.M., Harvard; Ph.D., Illinois (Urbana-Champaign)

Christopher Doll, B.A., Case Western Reserve; M.M., Cincinnati (Conservatory); Ph.D., Columbia

Barbara Gonzalez-Palmer, B.M., Oberlin; M.M., Juilliard

Maureen Hurd Hause, B.M., Iowa; M.M., M.M.A., D.M.A., Yale

Ching-Chun Lai, B.S., M.S., National Cheng Kung; M.M., New England Conservatory of Music; D.M.A., Wisconsin (Madison)

Todd Nichols, B.A., New Jersey; M.M., Messiah

Judith Nicosia, B.M.E., Ithaca; M.M., Indiana

Scott Ordway, B.A., Puget Sound; M.M., Oregon; Ph.D., Pennsylvania

Jonathan Spitz, B.M., Curtis Institute of Music

Joseph Tompkins, B.M., Eastman; M.M., Manhattan

Brandon Williams, B.A., Western Illinois; M.M.E., Illinois (Urbana-Champaign); D.M.A., Michigan State

Kraig Alan Williams, B.A., California State (San Bernardino); M.M., California State (Northridge); D.M.A., Texas (Austin)

Assistant Professors:

Julia Baumanis, B.M., M.M., Ph.D., Florida State

Christina Bouey, B.M., Boston Conservatory; M.M., Manhattan School of Music; A.D., Juilliard

Bille Bruley, B.M., M.M., Baylor; A.D., Indiana; D.M.A., Arizona State

Nicholas Chong, M.M., Cincinnati (Conservatory); Ph.D., Columbia

Kenneth DeCarlo, B.M., Manhattan

Kevin Farrell, B.F.A., California Institute of the Arts; M.M., Southern California

Saleel Menon, B.M., Houston; M.M., Michigan State

Marjoris Regus, B.M., M.M., Utah; Ph.D., Michigan

Lauren Ryals, B.S., Colorado (Boulder); M.Med., Vandercook (Music); Ph.D., Temple

Kristen Wallentinsen, B.M., Arizona; M.M., Massachusetts (Amherst); Ph.D., Western Ontario

Shelley Zhang, B.M., M.A., Toronto; Ph.D., Pennsylvania

Teaching Instructors:

Karina Bruk, B.M., M.M., Manhattan School; D.M.A., Rutgers

Robert Grohman, B.M., B.A., Northwestern; M.M., Mannes; D.M.A., Rutgers

Marc Stasio, B.M., Berklee; M.M., Rutgers

Lecturers:

Andrew Adelson, B.M., M.M., Juilliard

Robert Ameen, B.A., Yale

Alan Baer, B.M., Cleveland Institute of Music

Noreen Baer, B.M., M.M., California State; D.M.A., Southern California

Robert Bernotas, B.A., Rutgers; M.A., Ph.D., Johns Hopkins

Anthony D.J. Branker, Ed.D., Ed.M., Columbia Teachers College

Abraham Burton, B.M., Hartford; M.M., Rutgers

Lee Caplan, B.A., M.A., Rutgers

David Chapman, B.M., Rhode Island; M.M., Yale; Ph.D., Rutgers

Yun Kyung Choo, D.M.A., Rutgers

Andrea Christie, B.M., British Columbia; D.M.A, SUNY Stonybrook

Timothy Cobb, B.M., Curtis Institute of Music

Paul Cohen, B.M., Baldwin-Wallace; M.M., D.M.A., Manhattan

Paul Conrad, B.M., M.M., Rutgers

Luiz Cruz, B.M., Berklee; M.A., Hunter; Ph.D., Rutgers

Sara Cyrus, B.M., Indiana; M.M., Juilliard

Kenneth Davis, B.A., Northeastern; M.A., Rutgers

Mark Dover, B.M., Michigan; M.M., Manhattan

Melissa Dunphy, B.M., West Chester; Ph.D., Pennsylvania

Orrin Evans

Bart Feller, B.M., Curtis Institute of Music

Kathryn Felt, B.M., Rice; M.M., Juilliard

Jack Frerer, B.M., Juilliard; M.M., Yale

Solomon Guhl-Miller, B.M., M.M., Peabody; Ph.D., Rutgers

Kaoru Hinata, B.M., Northwestern; M.M., A.D., Yale

Sung Won Hwang, Dpl., Hochschule fur Musik und darstellende (Vienna); Dpl., B.M., Sibelius Academy (Helsinki)

Mark Hyczko, B.A.; B.M., Rutgers; M.M., Mannes

Taina Kataja, B.M., Sibelius (Finland); Diploma, Hochschule für Musik (Austria)

Ahran Kim, B.M., New England; M.M., Manhattan; D.M.A., Rutgers

Dawn Kotoski-Shicoff, M.M., Manhattan School of Music

Louis Levitt, B.M., Diploma, Cincinnati College Conservatory

Victor Lewis, B.M.; B.M.E., Nebraska

Alex Lough, B.A., Wesleyan University; M.M., Florida International University; Ph.D., University of California Irvine

David Martin, B.A., Rutgers; M.M., Northwestern; D.M.A., Rutgers

Burt Mason, B.M., Crane School of Music (SUNY Potsdam); M.B.A., Binghamton University; M.M., Manhattan School of Music

Deanne Meek, B.M., Peabody Institute of John Hopkins University; M.F.A., Goddard College

Jessica Morel, B.M., Indiana University; M.M., University of Las Vegas; D.M.A., University of North Texas

Angelique Mouyis, B.M., M.M., University of the Witwatersrand; M.F.A., New York (NYU), Tisch School of the Arts; Ph.D., Rutgers

Michael Noordzy, B.M., M.M., Rutgers

Alex Norris, B.M., Peabody Institute of the John Hopkins University; M.M., Manhattan School of Music; D.M.A., University of Miami Frost School of Music

Roger Nye, B.M., Eastman School; M.M., Southern California

Louie Ocampo, B.S., University of the East; M.F.A., Ohio State

MyungJin Oh, B.M., Academic Musical College of the Moscow State Conservatory; M.M., Manhattan School of Music; D.M.A., Rutgers

Hirona Oka

Daniel Panner, B.A., Yale; Diploma, Curtis; M.M., Juilliard; D.M.A., CUNY

David Peel, B.M., M.M., Miami

Todd Phillips, Juilliard School; Salzburg Mozarteum

Anthony Rideout, B.S., West Chester University of Pennsylvania; M.A., Montclair State

Greg Rosetti, B.A., Muhlenberg; M.A., Montclair; Ph.D., Rutgers

Carol Sharar, B.M., Montclair; M.M., William Paterson

Ronald John Sheppard, B.M., Manhattan

Jo-Ann Sternberg, B.A., Tufts; B.M., New England; M.M., The Juilliard School

Dave Stryker

Ian Sullivan

Brennan Sweet, B.M., A.D., Indiana

André Tarantiles, B.M., M.M., Indiana

Mark Timmerman, B.M., Curtis Institute of Music

Wilson Torres, B.M., M.M., Manhattan

Mike Truesdell, B.M., Lawrence; M.M., D.M.A., Juilliard

Timothy Urban, M.M., M.F.A., Binghamton; D.M.A., Rutgers

Aaron Vader-Collins, B.S., Liberty; M.M., Valley Forge; M.A., Liberty; Ph.D., Rutgers

Vladimir Valjarevic, B.M., M.M., Mannes; D.M.A., Rutgers

Aaron VanderWeele, LTCL, Trinity (London)

Jennifer Wharton, B.M., New England Conservatory; M.M., New Jersey City

Michael Zavorskas, B.A., Stevens Institute of Technology; M.M., Rowan; Ph.D., Rutgers

Zhuo Zhao, B.A., M.A., Inner Mongolia; M.M., New England; Ph.D., Rutgers

Carmit Zori Rinehart, B.M., Curtis Institute of Music

Department of Theater Arts (MGSA)

Department of Theater Arts

Department Leadership:

Interim Chair: Ellen Bredehoft
Associate Chair: Christopher Cartmill
Director of Production: Jenn Stauffer
Academic Director of Design & Production: David Gordon
Head of Acting: Cameron Knight
Head of B.A. Theater Program: Marshall Jones III
Head of Costume Design: Valerie Marcus Ramshur
Head of Costume Technology: Ellen Bredehoft
Head of Dramaturgy: Christopher Cartmill
Head of Lighting Design: Don Holder
Head of Scenic Design: Lee Savage

Head of Stage Management: Anne McPherson
Head of Technical Direction: Jenn Stauffer
Head of M.F.A. Playwriting: Kathleen Tolan

Professors:

David Esbjornson, B.A., Gustavus Adolphus; M.F.A., New York

Associate Professors:

Ellen Bredehoft, B.F.A., Idaho, M.F.A., Boston

Christopher Cartmill, B.A., Washington and Lee; M.F.A., Virginia David Gordon, B.F.A., New York

Don Holder, B.S., Maine; M.F.A., Yale; Honorary Doctor of Arts, Muhlenberg College

Marshall Jones III, B.A., Rutgers; M.A., New York

Cameron Knight, B.F.A., Michigan (Flint); M.F.A., Delaware

Jenn Stauffer, B.A., Macalester College

Kathleen Tolan, B.A., SUNY (Empire State College); M.F.A., Brooklyn College

Assistant Professors:

Deb Jackel, B.F.A., Rutgers

Danielle Liccardo, London Academy of Music and Dramatic Art

Anne McPherson, B.A., Reed College; M.F.A., Yale

Valerie Marcus Ramshur, B.A., Bennington College; M.F.A., New York

Lee Savage, B.F.A., Rhode Island School of Design; M.F.A., Yale

Lecturers:

Valeria A. Avina, B.A., Graceland University; M.F.A., Iowa

Shane Ballard, Fashion Institute of Technology

Jeff Bender, B.F.A, Michigan

William Carden, St. Lawrence, Brandeis

Elizabeth Hope Clancy, B.A., William and Mary; M.F.A., Yale

David Dannenfelser, B.A., William Paterson; M.A., New York, Sarah Lawrence College

Colleen Dolan, B.F.A., Rutgers

Kate Douglas, B.F.A., New York

Andy Elliott, B.A., San Diego State; M.F.A., Indiana (Bloomington)

Helen Farmer, B.A., Guelph; M.F.A., Rutgers

Karin Graybash

Jerilyn Jurinek, B.A., School of the Art Institute of Chicago; M.F.A., Columbia

Jessica Kahkoska, B.A., Northwestern

John Keller, B.A., Holy Cross; M.F.A., Rutgers

Letitia Lange, B.A., Pennsylvania State; M.F.A., Rutgers

Pat McCorkle, B.A., Rutgers; M.A., New York

Lauren McLoughlin, B.A., Rutgers; M.F.A., Rutgers

David Murin, B.F.A., New York

Sari Ruskin, B.A., M.A., City College of New York; Ph.D., Long Island

Cat Tate Starmer, M.F.A., Yale

Dayle Towarnicky, B.F.A., New York; M.A., Royal Birmingham Conservatoire

Denise Wagner, B.F.A., SUNY (Purchase); M.F.A., North Carolina (Chapel Hill)

Christine Whalen, B.A., Rutgers

Antu Yacob, B.A., Minnesota-Duluth; M.F.A., Rutgers

Professors Emiriti:

Lee Blessing, B.A., Reed College; M.F.A., Iowa

Eileen Blumenthal, B.A., M.A., Brown; Ph.D., Yale

F. Mitchell Dana, B.F.A., Utah State; M.F.A., Yale School of Drama

William Esper, B.A., Case Western Reserve; Neighborhood Playhouse School of the Theater; teaching training with Stanford Meisner

Vickie Esposito, B.A., Rutgers; M.F.A., Minnesota

John Jensen, B.S., Oregon; Pratt Institute and Lester Polakof School of Design

Virginia Johnson, B.S., Moorhead State, M.A., Bowling Green

Kevin Kittle, B.A., Caldwell College; M.F.A., Rutgers

Eric Krebs, B.A., M.A., Rutgers

Barbara Marchant, B.A.., Fort Wright College; teaching training with William Esper

Joseph F. Miklojcik Jr., B.S., Northwestern; M.A., Connecticut

R. Michael Miller, B.F.A., M.F.A., Washington Amy Saltz, B.A., Wisconsin

About the School of Social Work (SSW-G)

ABOUT THE SCHOOL OF SOCIAL WORK

Established in 1954, the School of Social Work has a distinguished record of instruction, research, and public service. Classes were first offered during the Great Depression to meet the state's need for social workers. Today, the school offers undergraduate and graduate-professional degree programs; holds classes at Rutgers University-New Brunswick, Rutgers University-Newark, and Rutgers University-Camden and Online; and is affiliated with social service agencies locally and worldwide. *U.S. News & World Report*, the global authority on academic program rankings, named Rutgers School of Social Work the #12 M.S.W. program in the nation and the #1 program in New Jersey.

Mission

The mission of the School of Social Work is to develop and disseminate knowledge through social work research, education, and training that promotes social and economic justice and strengthens individual, family, and community well-being in the diverse and increasingly global environment of New Jersey and beyond.

Location

The school offers classes in New Brunswick, Newark, and Camden and Online. The Office of the Dean is located at 120 Albany Street, Tower One, Suite 200 near the university's historic Rutgers University-New Brunswick campus. Each location is close to major highways and rail systems and within easy commuting distance of New York City and Philadelphia.

School of Social Work at a Glance

- One of the largest schools in the nation devoted to education and research on social welfare
- Classes offered online, in New Brunswick, Newark, and Camden and at other sites throughout New Jersey
- Offers a B.A. with a major in social work, M.S.W., M.S.W./M.A. in C.J., M.S.W./M.P.H., M.S.W./M.P.P., M.S.W./J.D., M.S.W./M.Div. M.S.W./Ph.D., Ph.D. and D.S.W.
- Fully accredited by the Council on Social Work Education
- Approximately 1,750 students enrolled in degree programs
- More than 400 continuing education events offered each year
- More than 200 full-time faculty members and lecturers

Additional information is available on the School of Social Work website.

National Association of Social Workers Code of Ethics

National Association of Social Workers Code of Ethics

The following broad ethical principles are based on social work's core values of service, social justice, dignity and worth of the person, importance of human relationships, integrity, and competence. Developed by the National Association of Social Work (NASW), these principles set forth ideals to which all social workers should aspire.

Value: Service
Ethical Principle: Social workers' primary goal is to help people in need and to address social problems.
Social workers elevate service to others above self-interest. Social workers draw on their knowledge, values, and skills to help people in need and to address social problems. Social workers are encouraged to volunteer some portion of their professional skills with no expectation of significant financial return (pro bono service).

Value: Social Justice
Ethical Principle: Social workers challenge social injustice.
Social workers pursue social change, particularly with and on behalf of vulnerable and oppressed individuals and groups of people. Social workers' social change efforts are focused primarily on issues of poverty, unemployment, discrimination, and other forms of social injustice. These activities seek to promote sensitivity to and knowledge about oppression and cultural and ethnic diversity. Social workers strive to ensure access to needed information, services, and resources; equality of opportunity; and meaningful participation in decision-making for all people.

Value: Dignity and Worth of the Person
Ethical Principle: Social workers respect the inherent dignity and worth of the person.
Social workers treat each person in a caring and respectful fashion, mindful of individual differences and cultural and ethnic diversity. Social workers promote clients' socially responsible self-determination. Social workers seek to enhance clients' capacity and opportunity to change and to address their own needs. Social workers are cognizant of their dual responsibility to clients and to the broader society. They seek to resolve conflicts between clients' interests and the broader society's interests in a socially responsible manner consistent with the values, ethical principles, and ethical standards of the profession.

Value: Importance of Human Relationships
Ethical Principle: Social workers recognize the central importance of human relationships.
Social workers understand that relationships between and among people are an important vehicle for change. Social workers engage people as partners in the helping process. Social workers seek to strengthen relationships among people in a purposeful effort to promote, restore, maintain, and enhance the well-being of individuals, families, social groups, organizations, and communities.

Value: Integrity
Ethical Principle: Social workers behave in a trustworthy manner.
Social workers are continually aware of the profession's mission, values, ethical principles, and ethical standards, and practice in a manner consistent with them. Social workers act honestly and responsibly, and promote ethical practices on the part of the organizations with which they are affiliated.

Value: Competence
Ethical Principle: Social workers practice within their areas of competence and develop and enhance their professional expertise.
Social workers continually strive to increase their professional knowledge and skills and to apply them in practice. Social workers should aspire to contribute to the knowledge base of the profession.

To view the NASW Code of Ethics in its entirety, including the ethical standards, go to the website.

Nondiscrimination Policy Standards of the Council of Social Work Education

Nondiscrimination Policy Standards of the Council of Social Work Education

The School of Social Work adheres to the university's policy on nondiscrimination. The school also follows the standards of the Council on Social Work Education by conducting its programs without discriminating on the basis of race, color, gender, age, creed, ethnic or national origin, disability, or political or sexual orientation.

Centers (SSW-G)

CENTERS

The School of Social Work's faculty-led centers focus on research, evaluation, policy development, and training around special topics of interest to the human services community. Additional information is available using the links below.

Institute for Families

Institute for Families

Founded in 2007, the Institute for Families (IFF) harnesses the extensive resources of Rutgers University to create a more humane, just, and equitable society. We develop and disseminate knowledge and information throughout New Jersey and beyond that leads to a greater understanding of a range of social issues, and implementation of capacity-building strategies and systems improvements to better address them.

We invite and enjoy strong partnerships and professional collaborations throughout the human service community, including the New Jersey Department of Human Services, the New Jersey Department of Children and Families, the New Jersey Department of Education, and various other community, state, and national organizations, foundations, and professional networks. For more information, visit the School of Social Work website.

Mission

The mission of the Institute for Families at the Rutgers School of Social Work is to support and strengthen individuals, families, and communities by increasing the capacity of human service professionals and organizations. They achieve this through a three-pronged approach that mirrors and supports the university's mission of instruction, research, and public service:

- training, technical assistance, and professional development;
- applied research and evaluation; and
- direct service and advocacy.

Centers (SSW-G)

Center for Gambling Studies

Center for Gambling Studies

Founded in 2007, The Center for Gambling Studies (CGS) is an international, multidisciplinary center for the study of gambling-related issues. The center's mission is to promote empirical research, to evaluate gambling-related policies and serve as a legislative resource, and to provide nationally accredited training for compulsive gambling counselors. The CGS is housed in the School of Social Work at Rutgers University-New Brunswick.

The mission of the Center for Gambling Studies is twofold: to drive global decision-making on issues relative to gambling and gaming by conducting strategic, non-partisan research and policymaking and to benefit individuals and families adversely affected by problems with interactive technology through innovative prevention, training, and intervention programs.

Additional information is available online.

Centers (SSW-G)

Office of Global Social Work Programs

Office of Global Social Work Programs

The Office of Global Social Work Programs works to bring the world into the classroom through global content that is infused throughout the curriculum as well as provided through specialized international education courses. It strives to expand international research, education, and service opportunities for students and faculty.

Our mission is to promote global citizenship and professional action among social work students, graduates, faculty, and practitioners. We achieve this through education, advocacy, research, and community service locally and globally.

Additional information is available online.

Centers (SSW-G)

Center for Prevention Science

Center for Prevention Science

The Center for Prevention Science was established in 2016 with a focus on community-level approaches to prevention. Our mission is to develop and disseminate knowledge through research that builds the capacity of community-based organizations to create changes in public policy or environmental conditions that cause social and health disparities.

The center has opened its doors to new opportunities and growth. Although much of the center's work has focused on substance abuse prevention, research in other areas of prevention has also been conducted (e.g., the prevention of sexual assault; child abuse and neglect). Research areas of the center include community organizing, substance abuse prevention, heath disparities, program evaluation, as well as empowerment theory and measurement.

Centers (SSW-G)

Center for Research on Ending Violence

Center for Research on Ending Violence

Founded in 2007, as the Center on Violence Against Women and Children's (VAWC) at the Rutgers School of Social Work, the Center for Research on Ending Violence strives to eliminate all forms of violence and the power imbalances that permit them. We accomplish our mission through a collaborative approach that focuses on multidisciplinary research, education, and community engagement. Our mission is to work to eliminate physical, sexual, and other forms of violence against women and children and the power imbalances that permit them. These goals are accomplished through a collaborative approach that focuses on multidisciplinary research, education, and community engagement.

Our work is focused on the three major branches of the center:

- research and evaluation
- education
- community engagement

Additional information is available online.

Centers (SSW-G)

Hub for Aging Collaboration

Hub for Aging Collaboration

The Rutgers Hub for Aging Collaboration at the School of Social Work advances excellence in collaborative research, teaching, and engagement to improve social contexts for aging and health equity. The Hub serves as a nexus to strengthen networks among community leaders, researchers, service providers, policymakers, and others toward innovation and leadership for aging in community. Fueled by the social work value of leveraging social relationships for change, we work across disciplines and sectors to improve environments for aging equity among individuals, families, and communities in all of their diversity.

The Hub strengthens connections across Rutgers faculty, staff, students, and community partners to amplify work on aging and social change. Collaboration is both a core outcome of our work and the primary way we approach advancing meaningful impact on aging.

Members of the Rutgers community (faculty, staff, postdocs, and graduate students) whose scholarship contributes to our mission of changing social contexts for aging and health equity are welcome to join our network. We also welcome similarly dedicated labs and centers at Rutgers to affiliate with us.

Degree Programs (SSW-G)

DEGREE PROGRAMS

The School of Social Work offers four degree programs: the bachelor of arts with a major in social work (B.A.), master of social work (M.S.W.), doctorate in social work (D.S.W.), and, in conjunction with the School of Graduate Studies, the doctor of philosophy (Ph.D.). The bachelor of arts and the master of social work degrees are accredited by the Council on Social Work Education.

Bachelor of Arts (B.A.) Degree with Social Work Major

Master of Social Work Program (M.S.W.)

Doctorate in Social Work (D.S.W.)

Doctoral Program (Ph.D.)

Bachelor of Arts (B.A.) Degree with Social Work Major (SSW-G)

BACHELOR OF ARTS (B.A.) DEGREE WITH SOCIAL WORK MAJOR

The bachelor of arts with a major in social work (B.A.), offered by the School of Social Work at both Rutgers University-New Brunswick and Rutgers University-Camden, is a professional degree program that prepares graduates for beginning social work practice. Students are prepared for professional practice as well as graduate study in social work and related fields. The focus for practice includes work with special populations, including the poor, the oppressed, and other at-risk groups. The program is fully accredited by the Council on Social Work Education. It stresses research-based instruction, individualized work with students, and "hands-on" experience as part of the learning process. Participants are expected to acquire the knowledge base and professional ethics, values, and skills to work effectively within individual, family, group, organizational, and community levels of practice.

The bachelor of arts degree program is offered through the School of Arts and Sciences at Rutgers-New Brunswick and the College of Arts and Sciences at Rutgers-Camden. Additional information is available online.

Additional information about undergraduate courses can be found in the New Brunswick Undergraduate Catalog.

Newark Campus

A separate accredited undergraduate program leading to a bachelor of arts degree in social work is offered at Rutgers University-Newark through both the Newark College of Arts and Sciences and University College-Newark. For further information about the program in Newark, visit the website.

Bachelor of Arts (B.A.) Degree with Social Work Major (SSW-G)

Undergraduate Admission

UNDERGRADUATE ADMISSION

Admission to the Bachelor of Arts with a Social Work Major

Undergraduate students begin the social work major in their junior year, having completed approximately 60 credits. Students should plan to declare the major during the spring semester of their sophomore year. Prospective B.A.S.W. students are notified of approval for the major by the School of Social Work Office of Admissions.

Qualifications
In order to be approved for the major, students must have achieved the following:

1. Admission to the university in either the School of Arts and Sciences at Rutgers University-New Brunswick or the Camden College of Arts and Sciences at Rutgers University-Camden;
    1. A cumulative grade-point average of 3.0 or better. Exceptions to the grade-point average requirement may be made on an individual basis.
    2. Completion of approximately 60 credits, including the majority of prerequisites below:
        1. Basic Psychology
        2. Introduction to Sociology
        3. Human Biology
        4. Statistics
        5. Two liberal arts courses from the following areas (1 each): Anthropology, Art, Communication/speech, Geography, History, Literature, Music, Philosophy, Religion, or Theater

For information about admission to the social work major, call 848-932-7520, or visit the website. For information about admission to the university, visit the Office of University Undergraduate Admissions website or call 732-445-INFO (Campus Information Services).

Master of Social Work Program (M.S.W.) (SSW-G)

Master of Social Work Program

As the school's largest program, the master of social work (M.S.W.) prepares students for professional roles in the full array of major human services. The M.S.W. prepares students for advanced social work practice. This includes preparing people to assume administrative leadership roles in the state's social welfare departments and agencies at all levels of government, as well as in the voluntary sector. It also includes preparing skilled direct-service providers to function in both public and private sectors of social welfare. This is accomplished in a program that maximizes individualization of learning and student choice.

The M.S.W. program is accredited by the Council on Social Work Education (CSWE). The school's curriculum is designed to address the wide range of knowledge, values, tasks, and skills required to prepare competent and effective social work professionals. The school emphasizes the preparation of social workers who are committed to practice with the poor, vulnerable populations, and the oppressed and who work to alleviate poverty, oppression, and discrimination.

The School of Social Work offers a full range of programs leading to the M.S.W. degree. The M.S.W. curriculum is divided into two levels: the generalist curriculum and the specialized curriculum. The first level requires 30 credits and the second level requires 30 credits, to complete a total of 60 credits for graduation. The generalist curriculum must be completed successfully before entry into the specialized curriculum.

Graduate Admission

Specialized Curriculum

Two-Year M.S.W. Program Sequence

Four-Year M.S.W. Program Sequence

Intensive Weekend M.S.W. Program

100% Online M.S.W. Program

Blended M.S.W. Program

Advanced Standing

Dual-Degree Options

Practicum Learning

Specializations

Area of Emphasis

Addiction Counselor Training (ACT) Certificate Program

M.S.W. Certificate in Aging and Health

Latina/o/x Initiatives for Service, Training, and Assessment (LISTA) Certificate

M.S.W. Certificate in Promoting Child and Adolescent Well-Being

Certificate on Interpersonal Violence & Trauma

Summer and Winter Sessions

Master of Social Work Program (M.S.W.) (SSW-G)

Traditional M.S.W. Program

Traditional M.S.W. Program

Please visit the Traditional M.S.W. Program website.

The traditional/on-campus M.S.W. program is available on an either a two-, three-, or four-year basis and is offered at Rutgers University-New Brunswick, Rutgers University-Newark, and Rutgers University-Camden. Both specializations (clinical social work and management and policy) are offered in the traditional on-campus program as well as the full array of certificates. Weekend, and online formats may be available on a limited basis in the traditional program.

The School of Social Work also offers Intensive Weekend, 100% Online, and a Blended M.S.W. programs.

Master of Social Work Program (M.S.W.) (SSW-G)

Intensive Weekend M.S.W. Program

Intensive Weekend M.S.W. Program

The intensive weekend M.S.W. program in clinical social work is designed to enable students in the helping professions to pursue their M.S.W. while continuing to work full time. Students employed in behavioral health, child welfare, or other human services can expect to complete their M.S.W. education in three years. Both specializations (clinical social work and management and policy) are now offered in the Intensive Weekend Program. Students who have a B.S.W., can complete an M.S.W. in two years.

Classes are held at Rutgers' off-campus locations throughout New Jersey.

All courses are commensurate with the School of Social Work M.S.W. curriculum, assignments, reading, learning objectives, and expected competencies, just delivered in a hybrid and concentrated format.

Practicum requirements are generally fulfilled at the student's place of employment, in a capacity or department that differs from their customary work assignment.

Graduate Admission

Council on Social Work Education (CSWE) Competencies

Generalist Curriculum

Specialized Curriculum

Two-Year M.S.W. Program Sequence

Four-Year M.S.W. Program Sequence

Intensive Weekend M.S.W. Program

100% Online M.S.W. Program

Blended M.S.W. Program

Advanced Standing

Dual-Degree Options

Practicum Learning

Master of Social Work Program (M.S.W.) (SSW-G)

100% Online Program

100% Online Program

Please visit the 100% Online Program website.

Our 100% online M.S.W. program is designed for self-directed students who seek the flexibility and convenience of online learning. The program offers a robust online learning community with close interactions between students and faculty. Both specializations (clinical social work and management and policy) are now offered in the 100% Online Program.

Students in this program complete their M.S.W. in two or three years and classes are held in an asynchronous format, which means that there is not a fixed meeting time. Courses have regularly scheduled assignments and due dates, just like in a traditional classroom, and students and faculty interact via threaded discussions and other web-based technologies. Students who have a B.S.W., can complete an M.S.W. in less than two years.

Master of Social Work Program (M.S.W.) (SSW-G)

Blended Online Program

Blended Online Program

Please visit the Blended Online Program website.

The blended online program offers students the flexibility and convenience of online learning combined with a traditional in person classroom setting for advanced coursework.

Students in this program complete their M.S.W. in three years. In the first two years, classes are offered solely online in an asynchronous format, which means they are not typically held during a fixed meeting time. However, students have regularly scheduled assignments and due dates. In the third year, students take a combination of on-the-ground advanced courses and online classes in other curriculum areas.

Students may take their on-the-ground classes at Rutgers University-New Brunswick, Rutgers University-Newark, and Rutgers University-Camden. Practicum placement begins in the summer of the first year. Students choose to specialize in either clinical social work or management and policy in their third year. The three-year program structure provides students with significant flexibility and an extended time frame to complete their M.S.W., while still offering the benefits of a live classroom to acquire advanced practice skills and competencies.

Doctorate in Social Work (D.S.W.) (SSW-G)

DOCTORATE IN SOCIAL WORK (D.S.W.)

The Rutgers doctorate in social work (D.S.W.) program transforms social work clinicians into scholars by challenging students to contextualize their practice using theories and research drawn from multiple disciplines. Because

multidisciplinary knowledge and social justice intertwine at the heart of social work scholarship, we challenge students to grow beyond loyalties to one modality or perspective. The D.S.W. builds on seasoned clinicians' practice experience by cultivating their ability to present, publish, and create multimedia projects to disseminate their practice-relevant scholarship. The successful student tolerates ambiguity, engages with scholarly critique, thinks critically and creatively about clinical practice, and shares their insights in a professional manner.

Weekend Residencies for Working Practitioners

Each year consists of nine on-site residencies and two online residencies The on-site residency sessions will include lectures, seminars, writing workshops, case presentations, meetings with faculty and advisers, and participation in research interest groups. Each day of a residency consists of two three-hour modules--one morning and one afternoon. Our modular approach provides the flexibility for students to learn from a multitude of faculty with a broad array of expertise and allows our faculty (drawn from across the disciplines, institutions, and nations) to focus instruction on what they do and know best. Our instructors are deep thinkers from a variety of fields who have attained considerable influence in their areas, and thus serve as aspirational role models for experienced practitioner doctoral education.

Coursework is grounded in three integrated sequences: foundation (training in theory development and research skills); clinical practice (use and critique of clinical theories); and engaged scholarship (writing, clinical, and research proseminars). Graduation requires successful completion of 54 credits and is completed in three years. The program builds on students' initial case studies, which are completed in the first year. Formulating the case study helps students to develop critical thinking skills needed to draw on the scholarly literature and to understand case material in a new way. This becomes the foundation for developing qualitative inquiry skills and enhancing writing skills in the second year of the program. The final year culminates in a multimedia project that allows students to disseminate their work while also engaging with the greater scholarly community. These three projects make up a portfolio that is required for graduation in lieu of a traditional dissertation. Through the curriculum and assignments, the D.S.W. doctoral degree prepares graduates to address complex practice issues using critical perspectives and nuance, and enables them to become more sophisticated practitioners, teachers, and consumers and creators of scholarship.

A Focus on Writing

We have designed an innovative writing-intensive curriculum that offers our students the unique opportunity to engage in guided writing and revision with experienced writing professors. Students will learn strategies for writing publishable material as they progress in the program, and professionalize and distinguish themselves through their writing. Additionally, students will create and maintain their own professional website to be interlinked with the D.S.W. website, as both a digital home for continued scholarship and a venue for conversation among peers, and they will get an opportunity to practice establishing a web presence, while learning critical digital literacy skills.

Please visit the program's website.

For admission information to the D.S.W. program, please go to the School of Social Work website.

Doctoral Program (Ph.D.) (SSW-G)

DOCTORAL PROGRAM (PH.D.)

The Ph.D. program prepares students to assume positions of leadership in the field of social welfare. Graduates contribute to the knowledge base of social work and related fields as faculty, researchers, policy analysts, and executive administrators.

The Ph.D. in social work is conferred by the Rutgers University School of Graduate Studies in conjunction with the School of Social Work. Students complete a 72-credit program including:

- 36-48 course credits (holders of an M.S.W. degree from an accredited program can transfer 12 credits into the Ph.D. program).
- research internship
- written qualifying examination
- dissertation

The program aims to maximize student choice with regard to dissertation research studies. Students work with their advisers to assemble elective courses, research internships, and mentored research projects that will build a coherent body of knowledge and expertise in the student's chosen area of interest. The distribution of Ph.D. courses includes required, restricted choice electives, and free elective courses.

Universitywide Opportunities

In completing course requirements students have the opportunity to choose from a range of courses in top-ranked departments within the School of Graduate Studies. Research internships may be completed at university research institutes or with social work or social science faculty. Cross-registration may be arranged with Princeton University, New Brunswick Theological Seminary, or Robert Wood Johnson Medical Center.

Information about the Ph.D. in social work is available online.

For more information regarding admission to the Ph.D. degree program, consult the School of Graduate Studies website.

Admission

ADMISSION

For more information regarding admission to the Ph.D. program, consult the School of Graduate Studies website.

Applications are available online through the Office of Graduate and Professional Admissions.

Qualifications

Applicants should hold a master of social work (M.S.W.) degree or a related discipline. Students with an M.S.W. are allowed to transfer 18 credits toward the Ph.D. upon completion of 12 credits of graduate-level coursework in the doctoral program with grades of B or better. Transfer credits from other master's degree programs are evaluated on a case-by-case basis.

Doctoral Program (Ph.D.) (SSW-G)

Graduate Courses

Graduate Courses

16:910:637 (F) Quantitative Research Methods (3) Knowledge and skills needed to carry out independent doctoral-level research in social work. Identification and study of state-of- the-art methods of design and measurement; qualitative and quantitative formulations; data gathering, processing, analysis, and interpretation.

16:910:638 (F) Advanced Statistical Methods I (3) Analytic and measurement strategies fundamental to multivariate model testing in policy, administration, and direct practice research. Topics include tabular and loglinear analysis, multiple regression, analysis of covariance, and analysis of variance in its principal forms. Multiple indicators and measurement approaches, such as exploratory and confirmatory factor analysis.

16:910:639 (S) Advanced Statistical Methods II (3) Use of multivariate, quantitative methods. Employing multiple dependent variables, nonlinear relationships, mediator effects, instrument variables, and multilevel analysis. Prerequisite: 16:910:638.

16:910:640 (S) Qualitative Research Methods (3) Methods of collecting, analyzing, presenting, and applying qualitative data. History and evolution of qualitative research methods; theoretical orientations; data-collection methods, including ethnography, participant observation, in-depth interviewing, focus groups, and archival analysis; methods of data analysis; and research applications, including theory development and program design and evaluation.

16:910:644 (S) Current Perspectives (3) Theories and models of intervention used in social work direct practice. Applications. Prerequisite: 16:910:687.

16:910:645 (F) Conceptual Foundations of Social Work and Social Welfare (3) Intersections of social work profession and welfare state. U.S. social service systems, comparative perspectives, globalization, race and gender dynamics in social work policies and practice.

16:910:646 (S) Family Theory and Program Development (3) Family theory and its relationship to program development at different levels of practice and social planning. Policy planning and intervention perspectives; socialization and the study of deviance.

16:910:647 (F) Social Policy Analysis (3) Paradigms, methods, and strategies for the analysis of policy from social work, economics, sociology, political science, public administration, policy sciences, and planning.

16:910:657 (S) Structural Equation Modeling (3)

Development of both conceptual and computer skills needed for advanced SEM as applied to hypothesis testing, model fitting and estimation, and interpretation of data.

16:910:655 (F) Measurement (3) Introduction to concepts in psychometric measurement; identification and operationalization of latent variables in conceptual models; generation of items; construction and formation of questions; development of a scale that can be tested for reliability and validity.

16:910:657,658,659 Special Topics (3)

16:910:658 (S) Professional Development Seminar (1)

Professional development for social work Ph.D. students establishing careers in academic or research settings. Knowledge and skills on conference presentations, peer-reviewed publications, external funding, and the academic job search process.

16:910:659 (S) Bibliography and Proposal Development Seminar (2)

Students in their second year preparing for Qualifying Exam (QE) and developing the dissertation proposal the following year. Introduction to structure and content of dissertation proposals; discuss QE preparation and dissertation proposal ideas.

16:910:660 (S) Intervention Research (3)

Design and evaluation of interventions that address clinical or social needs, problems and conditions and to develop intervention research grant proposals.

16:910:682 (F) Advanced Individual Studies in Social Welfare (3) Provides an opportunity to specialize in a specific area of policy analysis, social planning, social administration, or direct intervention, on an individualized basis.

16:910:683 (S) Advanced Individual Studies in Social Welfare (3) Provides an opportunity to specialize in a specific area of policy analysis, social planning, social administration, or direct intervention, on an individualized basis.

16:910:687 (F) Theory Development in Social Work Direct Practice (3) The relative places and contributions of theoretical conceptualization, and descriptive and prescriptive research.

16:910:701,702 Dissertation Research (BA,BA) Independent research study related to proposed dissertation, with assistance of appropriate faculty. Dissertation seminar.

16:910:703,704 Research Internship (BA,BA) Independent research internship under guidance from the faculty adviser to develop a dissertation proposal.

16:910:705 Dissertation Seminar (3)

16:910:706 Advanced Dissertation Seminar (1)

Continuing Education and Professional Development (SSW-G)

CONTINUING EDUCATION AND PROFESSIONAL DEVELOPMENT

The Rutgers School of Social Work's Office of Continuing Education delivers courses for professional development and lifelong learning for social workers and other human service professionals.

Workshops are offered at the postbaccalaureate and post-master's levels. Learning activities are designed to help licensed and certified social workers in the state meet the continuing educational requirements for licensing and certification. All workshops, certificate programs, and training are approved by the New Jersey Board of Social Work Examiners. Information and brochures are available from the Office of Continuing Education, Rutgers School of Social Work, 390 George Street, 3rd Floor, New Brunswick, NJ 08901.

For More Information

Call: 848-932-8758
Please visit the Continuing Education and Professional Development website.

Professional Credit Courses (Nonmatriculated) (SSW-G)

PROFESSIONAL CREDIT COURSES (NONMATRICULATED)

Professional credit courses consist of nondegree, graduate-level courses. These courses provide an excellent opportunity for individuals who may be considering the master's program in social work to explore introductory classes without committing to a matriculated program. The courses are equivalent to those offered during the first half of the master's program. Upon acceptance into the Rutgers master's program in social work, up to 18 credits may be applied toward your degree.

Please note:

- A baccalaureate degree from an accredited college or university is the prerequisite for admission.
- Taking professional credit courses in no way guarantees admission to the School of Social Work. Anyone interested in the master's program should apply online.

Courses

There are five required M.S.W. degree courses and several electives offered through the professional credit program. All courses are 3 credits. Please note: If you are accepted into the master's program, only one elective will be credited toward your degree.

Courses are offered online. Classes are limited in size, and applications are processed on a first-come, first-serve basis.

For more information about admission, locations, and course offerings, visit the website.

Financial Aid (SSW-G)

FINANCIAL AID

The impact of educational expenses on students and their families is sizable, even though tuition at Rutgers covers only a small portion of the actual cost of instruction for each student. In order to allow students with limited financial resources to attend, every effort is made to assist these students in finding the funds to finance their education.

A majority of full-time graduate students at the university receive some financial aid. The amount of support each student receives depends, in part, upon the availability of funds. The level of support often is dependent upon the specific graduate program and the student's degree status. Limited funds are available to students from scholarships, fellowships, assistantships, grants, low-interest loans, and part-time employment. To apply for grants, loans, and employment, students must complete the Free Application for Federal Student Aid (FAFSA). For additional information, applicants should visit the Rutgers Office of Financial Aid.

School of Social Work Scholarships

The School of Social Work offers a limited number of scholarships for its students. Students are notified by the Office of Student Affairs at the School of Social Work as applications are made available.

Student Associations (SSW-G)

STUDENT ASSOCIATIONS

Graduate Student Association

School of Social Work Student Association

Graduate Student Association (SSW-G)

GRADUATE STUDENT ASSOCIATION

The Graduate Student Association (GSA), of which all graduate students are automatically members, sponsors a variety of social and cultural activities for graduate students and represents their interests to the university through its legislative body. The GSA provides free legal advice to students and it sponsors academic programs, films, mixers, trips to New York, and community action programs.

Every graduate student, full-time or part-time, in any of the Rutgers University-New Brunswick graduate and professional schools automatically becomes a member of the GSA. A president, vice president, treasurer, and secretary are elected at large. The GSA's main legislative body is its council, which meets once a month. Every graduate program and department may elect one representative for every 40 students enrolled; schools not organized into departments elect their representatives at large, one for every 40 students enrolled. (Departments with fewer than 40 students also are allowed one elected representative.) If you are interested in being a department representative, check with your departmental organization or the association's office. GSA offices are located in the Graduate Student Lounge (GSL) in the Rutgers Student Center on College Avenue in New Brunswick and may be contacted at 732-932-7995. Additional information is available online.

Graduate student lounges, located in the Rutgers Student Center, Busch Student Center, and Douglass Student Center, are primarily for the use of graduate students and for the functions sponsored by and for graduate students. These provide a comfortable atmosphere for socializing, lounging, and studying.

School of Social Work Student Association (SSW-G)

SCHOOL OF SOCIAL WORK STUDENT ASSOCIATION

In addition to the university's Graduate Student Association, the School of Social Work has an active student association (SSWGSA). If you are a graduate student, you are automatically enrolled as a member.

Established in 2005, the SSWGSA is a vibrant association that:

- supports and encourages social, academic, and professional development of social work best practice by M.S.W. and Ph.D. students;
- serves as a conduit for dialogue between students, faculty, and administration; and
- advocates on behalf of the student body to the administration.

Community Service

Each year, we provide volunteer hours and financial support to various nonprofit and charitable community service organizations.

SSWGSA Executive Council

The SSWGSA executive council meets once a month, September through May. These meetings are generally held on the New Brunswick campus, however, you may also attend virtually online. Elections are held every spring and officers serve a 12-month term that begins in May.

For more information, please email us at rutgersSSWSA@gmail.com.

Academic Policies and Procedures (SSW-G)

ACADEMIC POLICIES AND PROCEDURES

Note: See the **University Policies and Procedures** section in the Rutgers Main catalog for university-wide academic policies and procedures.

Registration and Course Information

Class Schedules and Hours

Grades and Records

Academic Standing

Student Grievance/Complaint Procedures

Policy for Pregnant and New Parent Students

Graduation

Registration and Course Information (SSW-G)

REGISTRATION AND COURSE INFORMATION

Formal admission to the School of Social Work is a prerequisite to registration. Students must be registered to attend class. Newly admitted students receive complete registration instructions following their admission.

Before the start of the fall and spring semesters, registration instructions are posted on the registrar's website. Registration is done via the web registration system during specially announced dates. The school reserves the right to cancel or modify course offerings or to modify a student's registration in order to balance course sections.

Students who need to register after the regular registration period must contact the MSW Student Affairs Office at the School of Social Work. Students who have registered can make necessary adjustments to their schedules via the web registration system through the add/drop period. Confirmation of registration can be secured from the web registration system or a copy can be requested at the Office of the Registrar. Course offerings for the semester can be found online. Advisement varies according to the needs of the particular graduate program.

A student admitted into a degree program of the School of School Work is expected to maintain continuous registration in every fall and spring semester thereafter until completing the program and earning the degree. Students who need a leave of absence should contact the MSW Office of Student Affairs at the School of Social Work to be registered for matriculation continued status.

Summer and Winter Sessions

Summer and Winter Session registration may be accomplished online, by telephone, mail, or in person according to the schedule specified in the Summer and Winter Session catalogs. The catalogs are available online:

Rutgers University-New Brunswick

Summer

Winter

Rutgers University-Newark

Summer

Winter

Rutgers University-Camden

Summer

Winter

Registration and Course Information (SSW-G)

Late Registration

Late Registration

Students may register late only during the first week of each semester. A student who needs to register late must do so by contacting the School of Social Work's Office of Student Affairs during regular office hours, and will be required to pay a late registration fee.

Registration and Course Information (SSW-G)

Change of Courses

Change of Courses

The Add/Drop period generally occurs during the first two weeks of the semester. Students may add and drop courses to finalize their registrations. The actual add/drop dates are determined by the University Senate prior to the beginning of the semester, and it can vary each semester. Also, the Senate's decision supersedes any previously advertised add/drop dates. Therefore, students must check their campus specific website at the beginning of each semester to determine the latest registration information available. Students may use WEBREG or in-person registration, but undergraduates must register following a descending degree credit schedule (similar to the preregistration schedule).

Undergraduate students may drop courses until the end of the eighth full week of the term without academic penalty, provided the student follows the change of course procedures, as described previously. Courses dropped between the eighth calendar day and the eighth week of the term are assigned a W grade. Students dropping a course after the end of the eighth full week of the term are assigned a grade of F, U, or NC in the dropped course; the grade of F is computed in the term and cumulative grade point averages.

Registration and Course Information (SSW-G)

Withdrawal

Withdrawal

Students wishing to cancel their registration, withdrawal from all of their courses, or take a leave of absence from the university, must follow the University Withdrawal Process to submit an official online withdrawal form.

To cancel registration during the **fall and spring terms**, and obtain a full refund of tuition and fees, a student must submit an online withdrawal form within the first two weeks of the academic term. A student whose registration is canceled by the registrar receives a full refund of tuition and fees, and prorated charges for room and board, if applicable. A withdrawal form received on or after the end of the second week of the term is treated, for billing purposes, as a withdrawal and a refund is made based on the general refund policy.

A graduate student who wishes to withdraw from all courses should submit a written notice to the School of Social Work's Office of Student Affairs in New Brunswick. Email correspondence is highly recommended. A student who leaves the university without officially withdrawing receives a failing grade in each course. The date on which the Office of Student Affairs receives the written notice governs the academic and financial consequences of withdrawal. Written notices should be sent to studentaffairs@ssw.rutgers.edu.

Please note that notification to the instructor or practicum learning office(s) does not fulfill the student's obligation to communicate directly and in writing with the School of Social Work's Office of Student Affairs in New Brunswick in all matters pertaining to changes in registration and withdrawal.

Minimum and Maximum Programs

Minimum and Maximum Programs

The unit of credit used in Rutgers registration is based in part upon a measure of time, with 1 credit equal to one hour of class time plus two hours of preparation per week through a 15-week semester; thus a 3-credit course implies that a qualified and competent student should require an average of perhaps nine hours a week (including both classroom and preparation time) to carry out the work expected. Students should not expect to carry a full-time job while attending classes in the two-year program. The two-year program averages 15 credits a semester. Students must register for a minimum of 6 credits.

In order to obtain a Rutgers master of social work degree (M.S.W.), a student must take a minimum of 37 credits in residence.

Transfer of Credit

Transfer of Credit

Graduate courses successfully completed at another institution may be accepted for credit toward the master of social work (M.S.W.) degree, provided such courses are in areas of social work or are judged to be highly relevant to social work. A maximum of 21 transfer credits may be granted to a candidate for the M.S.W. degree at Rutgers. Approval of the assistant dean of admissions or the assistant dean for student affairs is required.

A minimum grade of B is required for transfer credit. Graduate courses for which transfer credit is sought must have been completed within the last six academic years in order to be considered. Admissions officers and student affairs staff review student transcripts and any identified coursework meeting criteria for transfer credits. Admitted students will be notified of transferable credit prior to submission of the admission deposit, confirming enrollment. Other graduate credit that may be equivalent to coursework within the M.S.W. program can also be considered by the Office of Student Affairs once the student has been admitted. Course syllabi are typically needed for evaluation of courses.

A maximum of 18 credits may be accepted from the credits gained through professional credit courses.

Academic credit for life experience and previous work experience is not given in lieu of the practicum requirements, generalist curriculum courses, or the specialized curriculum.

Continuous Registration, Leave of Absence

Continuous Registration, Leave of Absence

All matriculated M.S.W. candidates must register each semester/session as appropriate for their respective program until earning their degree. If a student requires a leave of absence, application must be made in writing to the assistant dean for student affairs, who must approve the leave. Once approved for a leave of absence, the student will be registered during the established registration period for 19:910:800 Matriculation Continued (0 credits). Students pay a fee each semester while on approved leave. Matriculation Continued status is available only to students who are not present on campus and not using faculty time or university research facilities. Leaves of absence may not extend beyond two regular semesters. Students who do not formally resume studies after two semesters of approved leave must apply for readmission through the Office of Graduate and Professional Admissions.

Intercollege Registration

Intercollege Registration

Students enrolled in the School of Social Work may register for a course offered by another unit of the university, with the approval of the assistant dean for student affairs. Additional approvals may be required. Courses taken at another unit of the university will count as electives. Courses must be graduate level for the course to be applied toward the master of social work degree. To register, use the online schedule of classes.

Registration and Course Information (SSW-G)

Time Limits for Degrees

Time Limits for Degrees

The maximum time a student is allotted to complete the master of social work (M.S.W.) degree is four academic years excluding approved leaves of absence.

Class Schedules and Hours (SSW-G)

CLASS SCHEDULES AND HOURS

Students are notified of starting and closing dates for each semester, scheduled holidays, and other important scheduling information. The Thanksgiving week schedule is rearranged to ensure consistency.

Class Schedules and Hours (SSW-G)

Attendance

Attendance

All instructors maintain a record of attendance in each of their classes or sections. Students are expected to be present at each meeting of their classes. At the instructor's discretion, exceptions to this rule may be made for illness or other circumstances.

Students in the intensive weekend, 100% online, and blended programs are notified of specific attendance/participation requirements.

Class Schedules and Hours (SSW-G)

Absence Due to Religious Observance

Absence Due to Religious Observance

It is the policy of the university to excuse without penalty students who are absent because of religious observances and to allow the make up of work missed because of such absences. Examinations and special, required out-of-class activities ordinarily will not be scheduled on those days when such students refrain from participating in secular activities. Absences for reasons of religious obligation will not be counted for reporting purposes. A student absent from an examination because of required religious observance will be given an opportunity to make up the examination without penalty.

Cancellation of Classes

Cancellation of Classes

It is the general policy of the university not to cancel classes because of inclement weather. However, because of the occasional hazards of night driving in the winter, exceptions may be made for evening classes, and under exceptionally hazardous conditions, exceptions may be made for daytime classes.

Announcements concerning campus status will be made over the following stations: WRNJ (1510 AM), WCTC (1450 AM), WCBS (880 AM), WINS (1010 AM), WKXW (101.5 FM), WRSU (88.7 FM), and NEWS12 (cable).

Additionally, information will be available through RU-tv's Rutgers info channel 3, the Rutgers University-New Brunswick operating status page; the Rutgers University-Camden operating status page here; the Rutgers University-Newark operating status page; and from Rutgers Campus Information Services at 732-445-INFO (4636).

Arrangements for makeup work are announced by individual instructors.

Grades and Records (SSW-G)

GRADES AND RECORDS

Students in the School of Social Work are graded in each course at the end of each semester as follows:

Grade		Numerical Equivalent
A		4.0
B+		3.5
B		3.0
C+		2.5
C		2.0
F		0.0

The school does not assign the grades of D or D+ in its courses.

IN (Incomplete). When the practicum assignment is incomplete, the executive director of practicum learning may elect to assign a grade of IN.

P/F (Pass/Fail). Practicum courses use the nonnumerical grades of pass or fail.

TF (Temporary). TF is used for all incomplete and temporary grades. Temporary grades are given at the discretion of the instructor when the student has not properly completed the coursework requirements due to extenuating circumstances. If a student does not complete the course requirements, the TF grade will change to an F.

W (Withdrawal). Used when a student officially drops a course or withdraws after the add/drop period through the first 8 weeks of the semester. No course may be dropped after the 8th week of the semester.

XF (Disciplinary Failure)

Grades and Records (SSW-G)

Transcripts

Transcripts

Requests for official transcripts for all current and former students will be processed in the order received. Allow ten (10) days for release. We also cannot accept EMAIL requests. To request any of these, please visit the Transcript Request Application.

Transcripts of academic work include all courses taken and grades received at the university. Students may request a transcript that includes all courses taken while enrolled as an undergraduate student (matriculating, nonmatriculating, and Summer Session), all courses taken while enrolled as a graduate student (matriculating, nonmatriculating, and Summer Session), or all courses taken while enrolled in all schools.

Currently enrolled students can view their schedule of classes with meeting days, times, and locations, as well as their semester grades and full transcripts and/or transfer course credits. Transcript information is updated nightly. Transcripts are not available on Fridays from 6:00 PM to 8:00 PM.

View term grades, transcripts, and class schedules on MyRutgers.

NOTE: If you do not have a social security number, Rutgers ID or Rutgers Biomedical and Health Sciences (formerly UMDNJ) ID, or you are not willing to supply it, you will not be able to request a transcript through this system.

To request a RBHS transcript, please download this form, and mail it to the Registrar's office.

To request a Rutgers transcript, please download this form, and mail it to the Registrar's office.

Grades and Records (SSW-G)

Student Identification Cards

Student Identification Cards

New graduate students should submit a recent photo for their student identification card. Information regarding locations, hours of operation, card benefits, and replacing lost or stolen cards may be obtained by visiting the RUconnection website.

Online students are issued an identification letter in place of a regular student ID card. This letter is generated by COHLIT (Center for Online and Hybrid Learning and Instructional Technologies) at the start of each semester.

Academic Standing (SSW-G)

Academic Standing (SSW-G)

Academic Standards

Academic Standards

To qualify for graduation, a student must earn a total of 60 credits and maintain a cumulative grade-point average of 3.0 (B).

Academic Standing (SSW-G)

Academic Standing and Student Review Policy

Academic Standing and Student Review Policy

Students are required to maintain a minimum cumulative grade-point average (GPA) of 3.0 each semester, which is also the minimum GPA required to graduate from the master of social work program. Students must also meet any conditions imposed at the time of admission to remain in good academic standing.

Academic Difficulty

Student GPAs are reviewed each semester by the Office of Student Affairs. A student is considered to be in academic difficulty and will be placed on **academic probation** if any of the following conditions apply:

1. The student has earned a semester GPA of less than a 3.0 and his or her cumulative GPA is 3.0 or better.

2. The student received an F in an elective course.

3. The student received an incomplete in fieldwork.

4. At any point during the semester, there is evidence of inadequate field performance.

The assistant dean for student affairs will notify both the student and the student's academic advisor regarding the student's academic probationary status.

Academic Jeopardy

Students are required to maintain a minimum cumulative GPA of 3.0 each semester. A minimum 3.0 cumulative GPA is also required to graduate from the master of social work program.

A student is considered to be in **academic jeopardy** and will not be permitted to continue at the School of Social Work, if at the conclusion of any given semester, any of the following conditions apply:

1. The student has a cumulative GPA of less than 3.0.

2. The student received a grade of F in a required course.

3. The student received a grade of F in fieldwork.

The assistant dean for student affairs will notify any student in academic jeopardy in writing of the GPA and automatic dismissal. A copy of the notice will also be sent to the student's academic advisor and the associate dean for academic affairs.

Students who fail to achieve a minimum cumulative GPA of 3.0 and are automatically dismissed may appeal the dismissal to the associate dean for academic affairs in writing within two calendar weeks of the notification of dismissal.

The student must address the reason(s) for not achieving the minimum GPA and show how this factor(s) has been addressed and resolved. The student must also develop a specific written plan to resolve the academic problem. The student should meet with an academic advisor to develop and review this academic plan.

The associate dean for academic affairs will review the student's written statements and academic plan, and the student will be notified in writing within two weeks of the date that the associate dean receives the student's written appeal.

If the student is not satisfied with the associate dean's decision, the student may appeal to the dean of the School of Social Work in writing within two weeks of receipt of the associate dean's decision. The dean will notify the student in writing within two weeks of the date that the dean receives the student's written appeal. The decisions of the dean are final.

Holds

Holds

The privileges of registration, advance registration and receipt of a diploma are barred to students having outstanding obligations to the university. Obligations may take the form of unpaid monies, unreturned or damaged books and equipment, parking fines, other charges for which a student may become legally indebted to the university, and failure to meet immunization requirements or to comply with disciplinary sanctions or administrative actions.

University departments and offices may place "holds" on registration and diplomas for any students having an outstanding obligation.

Student Grievance/Complaint Procedures (SSW-G)

STUDENT GRIEVANCE/COMPLAINT PROCEDURES

Students may have grievances or complaints relative to their academic learning in class or in the practicum setting. There are two bases for grievances: faculty computational error or the faculty member is alleged to have been arbitrary or capricious.

Student Grievance/Complaint Procedures (SSW-G)

Grievances/Complaints Class

Grievances/Complaints—Class

Students have the right to grieve their final course grades on the following grounds: (a) there was a computational error made by the instructor; or (b) the grade was given in an arbitrary or capricious manner, meaning that the student was given a final grade for reasons other than their performance on their assignments.

Grade grievances are limited to final course grades.

Procedures

1. Students should first attempt to resolve the matter in writing, or by discussing the issue with their instructor no later than 10 working days after the final grade has been posted.

2. If a resolution cannot be reached with the instructor, students should consult their advisor who will review the grade grievance policy and its associated procedures. While advisors can provide guidance and support, they cannot contact instructors on students' behalf to advocate for them. All communication regarding the grade grievance must occur between the student and instructor only. The student should include their advisor on all emails with the instructor, so their advisor has up-to-date information about the situation.

3. After discussing the issue with their advisor, the student specifies, in writing, the basis for the grade grievance and requests a review by the MSW Program Director. The grievance should provide evidence to support the student's assertions and be submitted no later than 10-12 working days after the final grade has been posted. The grievance should be emailed to Arlene Hunter, Assistant Dean for Student Affairs (amhunter@ssw.rutgers.edu). She facilitates the process with the MSW Program Director.

4. The MSW Program Director will then closely review the student's grade grievance. The Director may consult with the instructor who provided the student's final grade to obtain relevant information. The communication with the instructor may be in writing or through a virtual or phone meeting. Once the Director has all relevant information, they will make a final decision regarding the grade grievance within 10 business days. The final decision will be to:

A. Uphold the students' final grade because no computational error was made because the grade was not given in an arbitrary or capricious manner;

or

B. Discuss the result of the grade grievance with the instructor. The final grade will then be changed because of the computational error or because the grade was given in an arbitrary or capricious manner.

5. A student who is not satisfied with the decision of MSW Program Director may appeal to the Associate Dean for Academic Affairs no later than 10 working days after receiving their decision. The request for appeal should be emailed to the Assistant Dean for Student Affairs (Arlene Hunter at amhunter@ssw.rutgers.edu). She will facilitate the process with the Associate Dean for Academic Affairs. The decision of the Associate Dean for Academic Affairs is final and cannot be appealed any further.

Ad-Hoc Grade Appeal Committee

In limited circumstances, the MSW Program Director may convene an Ad-Hoc Grade Appeal Committee. The Committee is used in more complex situations, providing feedback and assisting the MSW Program Director in making a final decision related to the student's grade grievance.

Composition of the Committee

The Ad-Hoc Grade Appeal Committee consists of the MSW Program Director (who is the Chair), the faculty member coordinating the course that the student is grieving the grade for, and another faculty member appointed by the Associate Dean for Academic Affairs. If the MSW Director or Course Coordinator is the instructor for the student's course or is not available, the Associate Dean will appoint another faculty member to the Ad-Hoc Grade Appeal Committee in their place.

Procedures

A. The MSW Program Director will consult with the instructor who provided the student's final grade to obtain relevant information. The communication with the instructor may be in writing or through a virtual or phone meeting.

B. The MSW Program Director will then provide the Ad-Hoc Grade Appeal Committee with the material needed to review the student's grade grievance.

C. After reviewing the relevant information, the Ad-Hoc Grade Appeal Committee will meet to discuss the student's appeal and assist the MSW Program Director in making a determination regarding the grade grievance.

D. The student will receive written notification of the final decision of the MSW Program Director within 21 working days of initially filing the grievance.

E. A student who is not satisfied with the decision may appeal to the Associate Dean for Academic Affairs no later than 10 working days after receiving their decision. The request for appeal should be emailed to the Assistant Dean for Student Affairs (Arlene Hunter at amhunter@ssw.rutgers.edu). She will facilitate the process with the Associate Dean for Academic Affairs.

F. Written notification of the action taken by the Associate Dean for Academic Affairs will be sent to the student within 14 working days of filing of the appeal. The decision of the Associate Dean for Academic Affairs is final and cannot be appealed any further.

Student Grievance/Complaint Procedures (SSW-G)

Grievances/Complaints Fieldwork

Grievances/Complaints—Fieldwork

Grievances/Complaints Fieldwork Policy

Students have the right to grieve their final practicum course grade on the following grounds:
(a) the student must demonstrate that either there was a computational error made by the practicum instructor
(b) the practicum instructor determined the grade in an arbitrary or capricious manner

Procedures

1. A grade grievance may be initiated by the student notifying his or her advisor and by submitting a letter outlining a basis of the grievance to the Associate Director of Practicum Learning within two weeks of notification or posting of the grade. The Associate Director of Practicum Learning will render a decision in writing whether to uphold the grade within two weeks of receipt of the grievance letter.

2. If the outcome of step 1 is not satisfactory to all involved parties, the student may appeal in writing to the Executive Director of Practicum Learning (Mark Lamar at mlamar@ssw.rutgers.edu) This appeal must be communicated in writing no later than one week after the student has received the letter from the Associate Director of Practicum Learning. Within one week of receipt of this letter, the Executive Director will render a decision as to whether to uphold the grade.

3. If the outcome of step 2 is not satisfactory to all involved parties within one week of the determination of the Executive Director of Practicum Learning, the grievance may be presented in writing to the MSW Program Director or the BA in Social Work Program Director. The Program Director will determine as to whether to uphold the grade within two weeks of receipt of the grievance letter. The Program Director's decision is final and binding. The student will be informed in writing by the MSW Program Director once the decision is final. It is in the interest of all involved parties to resolve such situations as expeditiously as possible.

Policy for Pregnant and New Parent Students (SSW-G)

POLICY FOR PREGNANT AND NEW PARENT STUDENTS

Pursuant to the Pregnant Worker's Fairness Act ("PWFA"), N.J.S.A. 10-5-12 (a)-(s) (enacted in 2014), pregnancy in any form (high risk or normal) is a "protected class" under the New Jersey Law Against Discrimination "("NJLAD".) This policy applies to both expectant and new parent women and men.

The student must request an accommodation and this accommodation must be on the advice of her treating physician. The student must provide the assistant dean for student affairs with a doctor's note in order to receive accommodations. The student cannot be penalized for requesting accommodations or using it, if and when it is granted.

It is not considered reasonable for the curriculum, course requirements, or attendance policies to be altered. A student may not expect course requirements to be waived but they may be given an alternate way to make up these requirements. These accommodations may include a temporary grade and extra time to submit assignments or a withdrawal and re-registration in the future without penalty.

A pregnant student will not be penalized under the school's attendance policy if they are unable to make a class due to pregnancy, but will be required to make up these classes when they are able in order to get credit for the course. This alternative is a reasonable accommodation and may include withdrawal from the course and re-registration in the future. A pregnant student who has provided documentation will not be given a grade of F because they were not able to attend class sessions. The student must be given the opportunity to withdraw from the course and take it when they are able.

Graduation (SSW-G)

GRADUATION

The master of social work degree is conferred by the university upon recommendation of the faculty of the School of Social Work. Degrees are conferred and diplomas issued only at the annual commencement each May. The School of Social Work holds its annual Convocation Ceremony each May. August and January graduates are invited to join May graduates at the May ceremony.

For more information on graduation, visit the Office of the Registrar.

Graduation (SSW-G)

Graduation Diploma Application

Graduate Diploma Application

A graduate Diploma Application Form is available online and information is available online for students who are on track to complete their degree requirements.

A graduate diploma application (Application for an Advanced Degree), obtainable from the registrar, must be completed and the form submitted by each candidate as follows:

- August diploma - August 15
- January diploma - January 6
- May diploma - March 15

Unless the form is submitted at the appropriate time by the candidate, the degree will not be conferred and graduation will be deferred. If, after filing the application, a candidate is unable to complete the degree requirements by the end of the semester specified, another diploma application must be filed for another semester.

Course Listings (SSW-G)

COURSE LISTINGS

Explanation of Three-Part Course Numbers

Throughout this catalog in course listings, the number preceding each course title is divided into three parts. The first two digits are the administrative code (standing for the school or faculty offering the course), the next three digits are the subject code, and the final three digits are the course code.

Administrative Codes

The following administrative codes are used in this catalog:

09 School of Social Work (Undergraduate)

16 School of Graduate Studies (Ph.D. program)

19 School of Social Work (M.S.W. program)

Subject Codes

The subject code indicates the subject matter of the course. The subject code for social work is 910.

Course Codes

Course codes for 100 to 499 indicate undergraduate courses; course codes from 500 to 799 indicate graduate courses.

Credits awarded for the successful completion of each course are indicated in parentheses following the course title.

Master of Social Work Courses

Master of Social Work Courses (SSW-G)

MASTER OF SOCIAL WORK COURSES

Enrollment in courses is restricted to matriculated students in the School of Social Work.

Generalist Curriculum Courses

Generalist Curriculum Courses

19:910:500 ***Practice with Individuals, Families, and Groups (3)***
This is the first half of two required sequential courses in the generalist curriculum. It provides the basic knowledge and skills as a foundation for the specialized curriculum. Using a problem-solving model in an ecological perspective, the course prepares students to apply a generalist practice perspective to systems of all sizes and levels. Essential values, concepts, and ethical considerations within a human rights perspective as they pertain to generalist social work practice are explored.
Corequisite: 19:910:501, 19:910:508 and 19:910:553.

19:910:501 ***Practice with Organizations and Communities (3)***
The second of two practice courses based on a generalist social work perspective, this course continues use of a problem-solving model for work with Macro (organization and community) systems and considers implications for at-risk groups.
Corequisite: 19:910:508.

19:910:502 ***Human Behavior and the Social Environment (3)***
Theories, themes, and issues concerning interaction among individuals--as they grow, change, and develop over the life course--and their social context are reviewed. Theories and assumptions about human behavior and diversity are critically applied to social work contexts. Values and ethical issues related to biopsychosocial development are examined.

19:910:504 ***Social Welfare Policy and Services (3)***
History, philosophy, and development of social welfare as an essential institution in the United States. Study of the emergence and role of social work, understanding of patterns of current provision, and introduction to analysis of social welfare policies.

19:910:505 ***Methods of Social Work Research (3)***
Introduction to scientific, analytic approach to building knowledge and skills, including role of concepts and theory, hypothesis formulation, operationalization, research design, data collection, data processing, statistical analysis, introductory computer skills, and report writing.

19:910:506 ***Diversity and Oppression (3)***
Introduces a range of diverse populations by race, ethnicity, gender, sexual orientation, and physical differences. Additionally, it examines the role, function, and effects of oppression in society as it relates to social and economic justice. Assumptions underlying theory and research methodologies from which basic constructs of human

behavior are drawn will be examined to understand how power and other dynamics manage and sustain oppression at the individual and institutional levels. Also of interest is how oppression affects service delivery at micro and macro levels, particularly social policies and strategic planning which drive the shape of services.

19:910:507 ***Clinical Assessment and Diagnosis (3)***
Major forms of emotional distress in adults and children. Classification trends, issues, and models. Introduction to clinical syndromes in terms of diagnostic methodology, research, and social concerns and their implications for at-risk groups.

19:910:508 ***Practicum 1 (2)***
Practice social work in agency settings under qualified educational supervision. Includes service to vulnerable and oppressed populations while learning generalist skills.
Corequisite: 19:910:500, 19:910:501 and 19:910:553.

19:910:509 ***Practicum 2 (2)***
Furthers learning of problem-solving skills and strategies begun in Practicum 1 and prepares students to enter the advanced practicum curriculum.
Prerequisite: 19:910:508, Corequisite: 19:910:501

19:910:553 ***Practicum Lab Seminar (1)***
This course will introduce students to the interpersonal communication skills necessary to engage and assess clients and client systems as they enter the field education practicum. Topics covered include understanding the importance of the professional use of self, developing an empathetic relationship, creating a therapeutic alliance, and applying counseling skills while considering the client's larger social environment. The course will also introduce students to expectations associated with a generalist field education practicum. This course will use the classroom as an experiential learning lab environment that involves a significant use of classroom exercises, role-plays, written analysis and reflections about these, and client simulations to practice the concepts and skills learned. ***Corequisite: 19:910:500, 19:910:501 and 19:910:508***

19:910:557 ***Reflective Seminar (1)***

The purpose of this seminar is to facilitate the integration of practicum experience with knowledge, values, and skills acquired in the classroom. With a focus on self-in-practice, the seminar will provide students with the opportunity to engage in discussion, reflection, and critical thinking about their evolving professional identity and key areas of social work practice. The seminar will explore a different aspect of social work each week; with the opportunity for students to explore how that aspect of the profession impacts them personally. This seminar will use the classroom as an experiential learning lab environment that involves a significant use of classroom discussion, exercises, role-plays, written analysis, and reflection. ***Corequisite: 19:910:509***

Specialized Curriculum and Electives

Specialized Curriculum and Electives

19:910:503 ***Social Work with Latinos (3)***
This course examines aspects of service delivery to Hispanic populations at both the macro and micro levels.

Students will develop knowledge about aspects of Latino culture that are relevant to the development of cultural competency. They will develop skills in providing evidence-based culturally relevant practices in services to this group.

19:910:511 ***Clinical Social Work I (3)***
Focuses on advanced social work, clinical and client advocacy skills, and techniques at each stage of the helping process; and with difficult practice situations as these apply to individuals, client groups, couples, and family systems. Case examples are drawn particularly from the client populations.
Prerequisites: 19:910:898 or 19:910:899, Corequisite: 19:910:600.

19:910:512 ***Clinical Social Work II (3)***
This course addresses therapeutic work with couples, families, and groups. The focus is on the professional use of self in differentiated ways to enhance therapeutic outcomes. Reinforcement of the connections among theory, evidence-based practice, interventions, and culturally appropriate and anti-oppressive stances toward social work practice occurs.
Prerequisite: 19:910:511. Corequisite: 19:910:601 or 19:910:560 or 19:910:578 or 19:910:581 or 19:910:590 or 19:910:592.

19:910:513 ***Clinical Social Work: Adolescents (3)***
The physical, psychological, social, and cultural dimensions of adolescence in today's culture, with focus on advanced direct practice with typical problems of adolescents. Particular attention paid to high-risk groups.
Prerequisite: 19:910:898 or 19:910:899

19:910:514 ***Understanding Addictive Behaviors (3)***
This course focuses on the etiology, prevalence, and policy implications of common addictive behaviors, including alcohol, tobacco, and other drugs; pathological gambling; and compulsive overeating or sexual behavior. Students will learn to evaluate the pharmacological mechanisms of dependence, components of addiction-related behavioral change, and issues involved in prevention, intervention, and evaluation of these addictive behaviors. The course will also examine the impact of age, race, gender, social class, culture, ethnicity, spirituality, religion, sexual orientation, national origin, and physical and mental ability on patterns of addiction. Content includes major theoretical perspectives on biological, sociological, and psychological bases for addiction and the impetus for change, and an examination of the empirical evidence for various perspectives.
Prerequisites: 19:910:502 or 19:910:898 or 19:910:899.

19:910:515 ***Financial Capabilities of Individuals, Families, and Communities (3)***
This course examines ways to improve the financial stability and security of low-income individuals, families, and communities in the United States. Students will learn the difference between income assistance and asset-based policies, which aim to help individuals and families build savings and acquire assets that will improve their financial security over the long-term. Historical patterns of institutionalized racism and oppression largely explain racial wealth disparities that justify asset development as a practice and policy strategy to achieve social and economic justice. This course uses a comprehensive approach to examine social programs and direct practice interventions, financial services, and policies that can move individuals, families, and communities along the asset-building continuum. The impact of issues such as life stage, social class, and cultural background will be examined. Policy issues include social insurance programs, savings, consumer protection, tax credits, public benefits, and innovative programs; practice issues include financial assessment and goal setting, financial coaching, and integrating financial interventions with traditional psychosocial interventions.

19:910:516 ***Clinical Social Work: Health (3)***
Problem-solving model of direct practice is applied at an advanced level for individuals, families, and groups in health care settings. Skills of crisis intervention, case management, and discharge planning addressed. Professional practice as part of an interdisciplinary team.
Prerequisite: 19:910:898 or 19:910:899.

19:910:517 ***Clinical Social Work: Mental Health (3)***
Contemporary interventions with clients who have severe psychiatric disorders and their families, in institutional and community settings. Intervention techniques with the more severe and chronic forms of psychiatric disorders, as defined in the Diagnostic and Statistical Manual of Mental Disorders, fourth edition, text revision (DSM-IV-TR); psychotropic medications; case management; the treatment orientations to care; and special issues in work with children and adolescents.
Prerequisite: 19:910:898 or 19:910:899.

19:910:518 ***Clinical Social Work: Children (3)***
Focuses on children (ages birth to 18), and the ways their development and circumstance as a dependent population affect the well-being of individuals and communities. As children generally reside in families, various family forms and risk statuses will be examined with a focus on anti-oppressive social work practice. Emphasis is on assessment of developmental aspects of child well-being and aspects of family well-being (with a broad and diverse definition of family); identification of risks, strengths, and resiliency factors; and sociological and psychological knowledge of how family and community contexts affect children. Intervention modalities include direct work with children and their families, case management, promotion of resilience, crisis intervention work with community service systems, and the use of the legal system.
Prerequisite: 19:910:898 or 19:910:899.

19:910:519 ***Clinical Social Work: Families (3)***
Advanced practice with family systems, with emphasis on a systems-analytical perspective that includes environing systems, as well as internal dynamics of the family system. Differential use of the major theoretical approaches in family therapy. Emphasis on a social work framework and on such traditional family social work techniques as advocacy, brokerage, and provision of concrete services.
Prerequisite: 19:910:898 or 19:910:899.

19:910:520 ***Clinical Social Work: School (3)***
Clinical social work with children and adolescents, in the context of the public school setting, individually, in groups, and with their families. Emphasis on the role of the school social worker in a host setting that is bound by governmental statutes and regulations, and on relationships with teachers and school administrators, with other members of the professional team, and with community agencies and groups.
Prerequisite: 19:910:898 or 19:910:899.

19:910:522 ***Clinical Social Work: Addictive Behaviors (3)***
Building upon the content learned in previous ACT courses, this practice-based course focuses on the assessment and diagnosis of common addictive disorders as well as addiction counseling skills with individuals. Students will learn how to develop a therapeutic alliance, starting with the initial interview, conduct a comprehensive biopsychosocial assessment, and develop systematic diagnostic summaries that include differential diagnosis and attention to co-occurring disorders. Students will learn how to evaluate a variety of assessment instruments, and to assess the impact of age, race, gender, social class, culture, ethnicity, spirituality, religion, sexual orientation,

national origin, and physical and mental ability on recovery from addictive disorders. Students will learn strengths-based, evidence-based interventions including Motivational Interviewing and Cognitive Behavioral approaches. This course is open to all students who have completed the course prerequisites. It is a required course for those in the Addictions Counselor Training (ACT) Certificate Program.
Prerequisite: 19:910:514 or 19:910:571, and: 19:910:898.

19:910:523 ***Clinical Social Work: Survivors of Abuse and Trauma (3)***
This course examines social work practice theories and intervention approaches and skills as they apply to practice with childhood and adult survivors of physical, sexual, and other forms of abuse and trauma. Particular attention will be made to the use of engagement, assessment, planning, intervention, evaluation, and follow-up on the micro, mezzo, and macro levels of practice. An emphasis will also be placed on diversity and use of social work ethics and values when working with survivors of abuse and trauma.
Prerequisites: 19:910:898 or 19:910:899.

19:910:525 ***Clinical Social Work: Aging (3)***
Examines social work practice theories, multidimensional assessment, and intervention approaches and skills as they apply to practice with older adults and their families. Diversity among older people will be emphasized, including discussion of the lifelong integration of personal experiences and client populations that range from well elders to older adults and their families who are facing end-of-life issues. Late-life opportunities, transitions, and challenges will be addressed. Implications for policy that impacts older persons will also be included.
Prerequisites: 19:910:898 or 19:910:899.

19:910:527 ***Politics, Policy & Racial Justice***
This course will allow students to engage with some of the most complex, potentially difficult, yet absolutely imperative issues that social workers must deal with in today's society. We focus on the role of social work and social workers: 1) confronting issues of racial justice, with specific focus on anti-Black racism; 2) in the prison-industrial complex and the carceral state; 3) and in politics and the political process.

19:910:528 ***Human Resource Management (3)***
Core theories, dynamics, functions, and ethics of human resource management in nonprofit and public human services organizations are analyzed with particular focus on the knowledge, skills, and abilities necessary to successfully recruit, retain, and develop the workforce necessary to achieve the mission of an organization. The substantive areas covered in this course include industry standard human resource policies and procedures in the areas of staff recruitment and selection; developing classification and compensation systems; establishing employee performance standards and conducting performance evaluations; developing and supporting a diverse workforce; employee and organized labor relations; maintaining a safe, discrimination- and harassment-free workplace; training and professional development; and strategic human resource planning.
Prerequisites: 19:910:898 or 19:910:899.

19:910:529 ***Adolescents Understanding Risk and Resilience (3)***
Explores the developmental stage of adolescence (from ages 12-19 years), with specific focus on how at-risk youth populations navigate the normative tasks associated with this stage.
Prerequisites: 19:910:502 or 19:910:898 or 19:910:899.

19:910:530 ***Solution-Focused Therapy (3)***
Students learn to apply this strength-based, brief model of treatment to assist adults, children, couples, and families to discover their own resilience and problem-solving abilities. Although the focus of this course will be on clinical

practice, implications for case management, as well as intervening with larger systems such as agencies and communities, will also be addressed.
Prerequisite: 19:910:511.

19:910:532 Integrated Behavioral Health and Primary Care (3)

This course examines theory and methods for integrating behavioral health services into primary care, to provide evidence-based, quality care using a multidisciplinary approach. Areas of focus include: (a) models of integrated care, (b) use of integrated care as population-based health approach for addressing health disparities and social determinants of health, (c) integrated care for the most common mental health problems treated in primary care, (d) integrating prevention and wellness approaches into primary care, and (e) delivery of psychosocial treatments in primary care using an interprofessional collaborative approach.

19:910:535 ***Management Practice and Theory (3)***
Core theories, elements, and functions of human services management are analyzed with a particular focus on the knowledge, skills, and abilities necessary to lead public and private human service agencies in the environment of today and the future successfully. Emphasis on internal management functions such as budget and finance, human resource administration, applications of information technology, and governance relationships; and on external functions such as legislative, media, and community relationships. Crosscutting topics enhance skills in leadership, mediation, and conflict resolution.
Prerequisites: 19:910:899 Corequisite: 19:910:575.

19:910:536 ***Program and Strategic Planning (3)***
Processes and technologies of strategic planning and program development in human service organizations from problem formulation through program design, resource mobilization, and implementation. Special attention to designing programs and meeting the needs of at-risk populations.
Prerequisite: 19:910:535. Corequisite: 19:910:607 or 19:910:560 or 19:910:581 or 19:910:590 or 19:910:592.

19:910:537 ***Financial Management (3)***
Overview of fiscal responsibilities of social agency executives. The accounting process, financial statements, budgeting, internal controls, audits, tax compliance, and fund accounting.
Prerequisite: 19:910:898 or 19:910:899.

19:910:538 ***Law and Social Work (3)***
Law in health and human services. Reading, using, and finding law. Law in practice in relation to law on the books. Topics include due process, equal protection, discrimination, confidentiality and duty to warn, child abuse, domestic violence, AIDS, sexual harassment, mental health, developmental disabilities, courtroom testimony, malpractice, and administrative liability.

19:910:539 ***Community Organizing (3)***
Focuses on identifying, developing, and testing community organizing skills. Special attention given to leadership development and community analysis.

19:910:540 ***Supervision and Consultation (3)***
Analysis of supervisory roles in human service organizations. Covers the three functions of supervision: supportive, educational, and administrative. Emphasis on frontline supervision.
Prerequisite: 19:910:898 or 19:910:899.

19:910:541 ***Fundraising and Marketing (3)***
Introduction to current strategies and procedures for identifying, obtaining, and maintaining a diverse portfolio of social service funding sources; review of methodologies for packaging, marketing, and selling program proposals to social service funders and consumers.
Prerequisite: 19:910:898 or 19:910:899.

19:910:542 ***Advanced Contemporary Policy:Health (3)***
Models of policy analysis applied to understanding the strengths and limitations of the U.S. health care system and services, as well as policies, programs, and services for the aging population. Addresses understanding of values and sociopolitical forces that define problems, affected populations, current policies and programs and their impact, service delivery and resource allocation, unmet needs, trends and analysis of political processes, and change strategies.
Prerequisite: 19:910:898 or 19:910:899.

19:910:543 ***Social Work with Immigrants and Refugees (3)***
Explores the ever-changing dimensions facing social workers who work with refugee and immigrant clients. The social work profession was founded on aiding the cultural adjustment of newcomers to the United States. Topics include becoming a refugee, the international experience before arrival in the United States, the refugee experience, cultural adjustment, culture shock, posttraumatic stress, and war and refugee trauma. Special groups will be discussed, including survivors of torture, victims of human trafficking, detainees, and asylum seekers. Special attention will be paid to family issues, intergroup conflict, and intergenerational issues. Post-9/11 issues facing refugees and immigrants will be discussed as well as the role that social workers can play in the fight against anti-immigrant policies, sanctions, and discriminatory practices.
Prerequisites: 19:910:502 or 19:910:898 or 19:910:899.

19:910:544 ***Poverty, Inequality, Discrimination, and Public Policy (3)***
Confronting issues of poverty and inequality is a core value of the social work profession. This course will provide students with a theoretical, empirical, and analytical understanding of poverty and inequality in the United States. Throughout the course comparisons will be made with other developed nations.
Prerequisites: 19:910:502 or 19:910:898 or 19:910:899.

19:910:545 ***Global Social Work and Social Development (3)***
Explores international social work, past and present, and the application of social work to vulnerable groups within the global context of today. Students will learn about different social service delivery systems around the globe and initiatives aimed at reforming systems of care with an emphasis on developing countries. Students will explore their international career goals through the focused exploration of a specific developmental issue within a country or region of the globe.

19:910:546 ***Spanish for Social Workers***
This multi-level language and culture online course is designed for current or pre-service social workers who want to learn or improve their Spanish for the professional setting and learn more about the Spanish-Speaking World Culture. It combines language learning practice with awareness of language and cultural diversity.

19:910:547 ***Social Work with Loss Across the Life Span (3)***
Addresses many types of loss that occur across the lifespan and incorporates a developmental approach to loss and grief.
Prerequisites: 19:910:502 or 19:910:898 or 19:910:899.

19:910:549 ***Latinos, Culture, Community, and Social Welfare (3)***
This course provides an overview of Latino peoples in the United States. It examines concepts and theories that apply to ethnicity, racial and social identity, and acculturation as they apply to the various Hispanic groups in the United States. It begins with brief histories of the major Hispanic groups and the political and social forces that provided the impetus for their location/relocation here. It continues with the cultural similarities and differences among the groups. Also to be discussed, the current social and economic condition of Hispanics and specific problems related to their status in the United States and implications for social work. In addition, a model of viewing Hispanic identity will be presented as a basis for social work assessment and intervention.

19:910:559 ***Sexual and Gender Diversity in Social Work (3)***
This course provides foundation knowledge and general practice skills for working with lesbian, gay, bisexual, transgender, and questioning (LGBTQ) individuals. Students will gain knowledge of LGBTQ historical and political perspectives, the development of LGBTQ identity-formation, health, mental health and familial issues, and LGBTQ issues across the life span including the coming-out process. Intersectionality of race, gender, sexual orientation, and gender identity will be addressed along with ethical and legal issues which impact LGBTQ individuals and their families. Students will learn how to practice with LGBTQ clients in culturally relevant ways, and resources for support and information will be identified.

19:910:562 ***Chronic Illness and Disability (3)***
Examines chronic illnesses and disability among adults, focusing on the medical and psychosocial aspects of various mental and physical health conditions. This course aims to foster understanding of how social workers work with clients with chronic illness and disability, as well as their significant others, within health care and community systems. Also reviews relevant policies and welfare system components intended to support those with chronic illness and disability.

19:910:564 ***Gender, Women & Intersectional Social Justice (3)***
Examines women in different parts of the world; the institutional factors and values of society that impact on personal roles, status, and discrimination of women; and the social and individual problems that affect women because of their gender. Feminist theories and feminist practices that facilitate institutional and individual changes are discussed.

19:910:565 ***Practicum 3 AS (3)***
Opportunities provided to become competent in providing advanced social work services and applying theory and concepts to practice in preparation for advanced professional practice.
Corequisite: 19:910:512 (clinical social work specialization) or 19:910:536 (management and policy specialization).

19:910:566 ***Understanding Violence and Abuse in Adulthood (3)***
Examines the definitions, scope, and impact of violence and abuse in adulthood. Explores the spectrum of theories and conceptual frameworks used to explain violence. In particular, the course focuses on the prevalence, etiology, myths, and dynamics of intimate partner violence (IPV), sexual violence, trafficking, and elder abuse. Perspectives on working with both victims/survivors and perpetrators are presented, with an understanding of the role of cultural and environmental contexts. The course includes a review of the conceptual frameworks used to guide current services, interventions, prevention efforts, and policies aimed at remedying and eliminating violence in our society. A special emphasis is placed on the advocacy role of the social worker in creating social change.
Prerequisites: 19:910:502 or 19:910:898 or 19:910:899.

19:910:567 ***Understanding Violence and Abuse in Childhood (3)***
Examines the definitions, scope, and impact of violence and abuse in childhood. Explores the spectrum of theories and conceptual frameworks used to explain violence. In particular, the course focuses on the prevalence, etiology, myths, and dynamics of child physical abuse, childhood neglect, child sexual abuse, sibling abuse, and trafficking. Perspectives on working with both victims/survivors and perpetrators are presented, with an understanding of the role of culture and environmental context. The course includes a review of the conceptual frameworks used to guide current services, interventions, prevention efforts, and policies aimed at remedying and eliminating violence against children in our society. A special emphasis is placed on the advocacy role of the social worker in creating social change.
Prerequisites: 19:910:502 or 19:910:898 or 19:910:899.

19:910:568 Clinical Social Work: Behavioral Health with Latinos (3)

This course will examine advanced social work practice with Latinos. Emphasis is on the application and adaptation of evidence-based interventions with Latino/a/x survivors of abuse and trauma, individuals with substance use disorders and/or mental illness, and individuals who identify as LGBTQ. The course analyzes the impact of immigration and migration as well sociopolitical and cultural factors on social work practice with Latinos. **Prerequisite: 19:910:898 or 19:910:899.**

19:910:569 ***Intersectionality in Social Work Practice with HIV/AIDS (3)***
Explores the impact of HIV infection and AIDS on the individual, family, society, and institutions that provide care. Examines the political, social, legal, ethical, spiritual, and public health issues and the perspectives of people living with HIV infection and AIDS that are needed to inform practice and policy.
Prerequisites: 19:910:502 or 19:910:898 or 19:910:899.

19:910:570 Reducing Drug Harm: Social Work Practice & Policy (3)

Harm reduction is a health and human service approach that focuses on reducing morbidity and mortality associated with drug use. This approach, which encourages safer, controlled, and/or reduced use of drugs, complements abstinence-only approaches to drug use. Harm reduction has long been implemented for drug use in international settings and recently was placed on the continuum of care alongside treatment, prevention, and recovery services by leading drug use organizations in the United States, including the Substance Abuse and Mental Health Services Administration and Office of National Drug Control Policy. As efforts to expand the implementation of harm reduction approaches grow in the United States, students will need greater knowledge about harm reduction. In this course, historical and contemporary issues related to harm reduction for drug use will be examined. Students will gain knowledge and develop critical analysis skills that will be achieved through three course learning components: (1) a historical overview of harm reduction, its principles, and specific types of approaches used; (2) a critical analysis of harm reduction's research evidence and implications for policy and practice; and (3) strategies to promote awareness and implementation of harm reduction equitably across society.

19:910:572 ***Aging Services: A Critical Perspective (3)***
Provides an overview of older adults as a population group and of aging as a biopsychosocial process. Explores aspects of social services and health care systems intended to help individuals, families, and communities confront aging-related challenges and capitalize upon aging-related strengths.

19:910:574 ***Developmental Perspective on Infants and Child Well-Being (3)***
This course focuses on understanding, analyzing, and applying theories of development for infants and children (through middle childhood). The course will use child development theories in application to case studies and child observations with infants and children. Particular consideration will be given to theories of change, culturally responsive practice, and privilege.
Prerequisite: 19:910:502 or 19:910:898 or 19:910:899.

19:910:579 Trauma-Specific Practice with Children and Families (3)

This course facilitates students' acquisition of the knowledge, skills, and attitudes necessary to effectively use 12 common trauma-informed practice elements in interventions for and the treatment of traumatized children and their families. The course highlights considerations of the impact of trauma, intervention objectives, and the practice elements needed to accomplish the intervention objectives. This course is taught using an inquiry-based learning (IBL) pedagogy to enhance students' engagement and learning using full-length cases that exemplify the diverse clients a clinician might encounter in practice. **Prerequisite: 19:910:898.**

19:910:582 ***Spirituality and Social Work (3)***
Provides a framework of knowledge, values, skills, and experiences for spiritually sensitive social work. Students develop skills and insight into responding competently and ethically to diverse spiritual and religious perspectives in social work settings with individuals, organizations, and communities. Attention given to collaboration with faith-based organizations, as spirituality enters into the dimension of policy and service delivery and "secular" and "spiritual" come together to address human need in society. Attention also given to both micro and macro aspects of social work.

19:910:584 ***Advanced Contemporary Policy:Interpersonal Violence (3)***
Models of analysis applied to policies affecting adult and childhood survivors of physical, sexual, and other forms of violence. Addresses understanding of values and sociopolitical forces that define problems, affected populations, current policies and programs and their impact, service delivery and resource allocation, unmet needs, trends, and analysis of political processes and change strategies.
Prerequisite:19:910:898 or 19:910:899.

19:910:585 ***Advanced Contemporary Policy:Economic Justice for Families & Communities (3)***
Models of policy analysis applied to children and family issues and problems. Addresses understanding of values and sociopolitical forces that define problems, affected populations, current policies and programs and their impact along with their unintended consequences, service delivery and resource allocation, unmet needs, trends, analysis of political processes and change strategies, and the role of evaluation.
Prerequisite:19:910:898 or 19:910:899.

19:910:587 ***Advanced Contemporary Policy:Mental Health (3)***
This course focuses on contemporary policy issues related to mental health including social determinants of mental health, treatment and access to care, rights and privacy, systems transformation, and disparities in care are examined in this course. The role of social workers in policy advocacy, the history and evolution of mental health policy, and recent mental health policy proposals are discussed. Students will learn to analyze mental health policy and advocate for policies that advance human rights and social, economic, and environmental justice. This course is open to **ALL** advanced year students, including those in any certificate programs. ***Prerequisite:19:910:898 or 19:910:899.***

19:910:588 ***Direct Practice: Theory and Models (3)***
Introduces students to the ways that theory and evidence are used to guide intervention with individuals, families, and groups. Focuses on the ways that effective direct practice intervention must integrate different sources of knowledge: evidence (what has worked in the past with people with similar problems), theory (frames of reference for understanding how problems are generated and solved), clinical wisdom, and client preferences. Students will learn straightforward rubrics for locating and evaluating research evidence that may be used to generate intervention possibilities. Students will study and critique several key intervention theories and models (psychodynamic, cognitive, behavioral, family systems, group work) and apply them to case materials. Finally, the class will explore processes and problems that cut across direct practice models, such as the enhancement of change motivation.
Prerequisite: 19:910:500.

19:910:591 ***Advanced Contemporary Policy:Children & Youth (3)***
This course will examine the broad array of state and federal policies for children, youth, and their families, with a particular emphasis on understanding policies and services for populations involved with child-serving systems. The course will also examine the historical foundations of these policies and how they have evolved over time in response to unmet needs. Students will develop critical frameworks for assessing the strengths and weaknesses of these policy interventions and of the delivery of child-oriented social services based on social and behavioral science research evidence and through the lens of multi-culturalism and social justice values. Emphasis will be placed on the role of the social work practitioner in enhancing the well-being of children and youth through social policy development, implementation, evaluation, and advocacy. The course uses a children's rights lens to examine different child policy topics. ***Prerequisite:19:910:898 or 19:910:899.***

19:910:594 ***Environmental Justice and Social Work***
This course will highlight theories to enhance the students' understanding of "Person-in-Environment" to be inclusive of the physical environment. Students will develop a paradigm regarding the interconnection of social work and environmental justice with an understanding of the bi-directional relationship of people and nature. Students will examine social work history and create an emerging perspective of social workers¿ role with respect to the environment. This course will help students achieve the updated Council on Social Work Education (CSWE) competency "Advance Human Rights and Social, Economic, and Environmental Justice" by developing awareness of ecological crises, environmental injustices, and movements that are intended to serve marginalized populations. Students will discuss how social workers can increase equality through advocacy, education, and action.

19:910:595 ***Evaluation of Social Work Practice & Programs (3)***
Quantitative and qualitative evaluation of agency programs and individual practice. Participation in hands-on, small-group research projects to cover all phases of the research process and use of computer technology.
Prerequisite:19:910:898 or 19:910:899.

19:910:600,575 ***Practicum 3 (3)***
Opportunities provided to become competent in providing advanced social work services and applying theory and concepts to practice in preparation for advanced professional practice.
Prerequisites:19:910:898 or 19:910:899 and 19:910:509. Specialization specific. Corequisite: 19:910:511 (clinical social work specialization) or 19:910:535 (management and policy specialization). Placement is determined by choice of specialization.

19:910:601,607 ***Practicum 4 (3)***
Continued learning experiences in specialized settings in preparation for advanced professional practice.
Prerequisite: 19:910:600. Corequisite:19:910:512 (clinical social work specialization) or 19:910:536 (management and policy specialization).

19:910:800 ***Matriculation Continued (0)***
May be used only if a student has a written, official leave of absence granted by the associate dean for student affairs. Students may not take a leave of absence during the first semester of the program.

Master of Social Work Courses (SSW-G)

Intensive Weekend M.S.W. Program Courses

Intensive Weekend M.S.W. Program Courses

19:910:596 ***Supervision and Human Resource Management (3)***
Human resource management encompasses the recruitment, selection, development, evaluation, and utilization of any organization's most costly resource--its employees. Personnel management is a general responsibility of all people occupying administrative and supervisory positions within the organization, and familiarity with its components and practices is important for direct practitioners as well as those focusing on management and community practice.

19:910:608 ***Theories of Management and Strategic Planning (3)***
Core theories, dynamics, functions, and ethics of public agency management, including program and strategic planning, are analyzed with a particular focus on the knowledge, skills, and abilities necessary to successfully lead client-serving agencies in today's environment and in the future. Emphasis is on internal management functions such as creating and supporting an effective management team; supporting a safe and ethical service environment; managing change; and sound strategic planning that includes consideration of budgeting, resource gaps, and performance/quality improvement activities beyond the use of data--all with the end goal of creating and sustaining a learning organization.

Master of Social Work Courses (SSW-G)

Addiction Counselor Training (ACT) Certificate Program Courses

Addiction Counselor Training (ACT) Certificate Program Courses

19:910:510 ***Gambling Counseling and Special Topics (3)***
Gambling Counseling and Special Topics provides the 30 hours in-person training required to receive the International Certified Gambling Counselor-I (ICGC-I) certification.
Prerequisite:19:910:522.

19:910:514 ***Understanding Addictive Behaviors (3)***
Examines psychosocial development through the life course, highlighting the factors influencing the ways in which individuals develop and recover from addictive behavior.
Prerequisites: 19:910:502, 500, and 508.

19:910:522 ***Clinical Social Work: Addictive Behaviors I (3)***
Covers the alliance, assessment, and diagnosis of substance-use disorders and co-occurring disorders.
Prerequisites: 19:910:514 or 19:910:571 and 510.

19:910:597 ***Clinical Social Work: Addictive Behaviors II (3)***
Prepares clinicians in the use of theoretically driven, evidence-based treatments in multiple modalities.
Prerequisite: 19:910:522.

19:910:598 ***Case Management in Addictions Practice (3)***
Covers making connections with the context of clients' lives.
Prerequisite: 19:910:514.

19:910:599 ***Professional Development and Responsibility in Addictions Practice (3)***
Prepares students for ethical practice, use of supervision, professional obligations, testing, and job-seeking.
Prerequisite: 19:910:522.

Administration and Faculty (SSW-G)

ADMINISTRATION AND FACULTY

Administration

Faculty

Administration (SSW-G)

ADMINISTRATION

George S. Leibowitz, Dean and Distinguished Professor; M.S.W., Ph.D., Denver

Antoinette Y. Farmer, Associate Dean for Diversity, Equity and Inclusion, Interim Associate Dean for Academic Affairs and Professor; M.S., Ph.D., Pittsburgh

N. Andrew Peterson, Director, Center for Prevention Science and Distinguished Professor; M.A., Ph.D. Missouri (Kansas City)

Lia Nower, Associate Dean for Research and Director, Center for Gambling Studies and Co-Director of the Addiction Counselor Training (A.C.T) Certificate Program and Distinguished Professor; J.D. St. Louis., Ph.D., Washington

Victoria Banyard, Vice Provost for Academic Affairs and Distinguished Professor: M.A., Ph.D., Michigan

Sharon Fortin, Associate Dean for Administration and Finance; M.H.R.M., Rutgers

Laura A. DiMarcantonio, Assistant Dean for Admissions and Recruitment; M.Ed., Virginia Commonwealth, Ph.D., Liberty University Virginia

Arlene M. Hunter, Assistant Dean for Student Affairs; M.A., Bowling Green State

Christine Morales, Assistant Dean for Lecturer Support and Assistant Professor of Teaching; M.S.W., University of Southern California, Ed.D., Rutgers

Christine Chapais, Director of Online MSW Programs and Assistant Professor of Teaching; M.S.W., Kean, D.S.W., Rutgers

E. Goldblatt Hyatt, Director, D.S.W. Program and Associate Professor of Professional Practice for Reproductive Justice; M.S.W., M.B.E.; D.S.W. (Pennsylvania)

Cassandra Simmel, Director, Ph.D. Program and Associate Professor; M.S.W., Ph.D., California (Berkeley)

Judith L. McCoyd, Associate Director, Ph. D. Programs and Associate Professor; M.S.W., Columbia, Ph.D., Bryn Mawr

Edward J. Alessi, Director, Master of Social Work Program and Professor; M.S.W., Columbia, Ph.D. New York

Jack Lewis, Director, Intensive Weekend Program and Associate Professor of Professional Practice; M.S.W., D.S.W., Pennsylvania

V. DuWayne Battle, Assistant Dean of Undergraduate Education, Director, BASW Program in New Brunswick and Teaching Professor; M.S.W., Rutgers; D.Min., Southeastern Seminary; Ph.D., Rutgers

Mark W. Lamar, Executive Director of Practicum Learning and Associate Professor of Professional Practice; M.S.W., M.B.A., Rutgers

Lia Nower, Associate Dean for Research, Director, Center for Gambling Studies and Co-Director of the Addiction Counselor Training (A.C.T.) Certificate Program, and Distinguished Professor, J.D., St. Louis, Ph.D., Washington

Natalie Bembry, Director, Baccalaureate (BASW) Program in Camden, and Assistant Professor of Teaching, M.S.W., Monmouth, M.A., Phoenix, Ed.D., Rowan

Theresa McCutcheon, Director, Institute for Families; M.S.W., M.B.A., Rutgers

Rebecca Davis, Director, Office of Global Social Work Programs and Associate Professor of Professional Practice; M.S.W., North Carolina (Chapel Hill) Ph.D., North Carolina (Greensboro)

Sarah McMahon, Director, Center for Research on Ending Violence, Professor and special advisor to the president for sexual misconduct prevention and response; M.S.W., Ph.D., Rutgers

Chien-Chung Huang, Associate Dean for Faculty Development and Professor; M.S.W., Chung-Cheng (China), Ph.D., Columbia

Doulgas Behan, Director of Continuing Education and Associate Professor of Professional Practice; M.S.W., D.S.W., Rutgers

Faculty (SSW-G)

FACULTY

The following list includes faculty from the bachelor's, master's, and doctoral degree programs offered through the School of Social Work.

Ayse Akincigil, Associate Professor; M.A., Ph.D., Rutgers

Edward Alessi, Professor and Director of the Master of Social Work (M.S.W.); M.S.W., Columbia; Ph.D., New York

Mary Beth Ali, Assistant Professor of Teaching; M.S.W., Fordham

Wen (Vivien) Li Anthony, Associate Professor; M.S.W., Ph.D., North Carolina (Chapel Hill)

Victoria Banyard, Distinguished Professor and Vice Provost for Academic Affairs; M.A., Ph.D., Michigan

V. DuWayne Battle, Teaching Professor and Assistant Dean of Undergraduate Education and Director of the BASW Program in New Brunswick; M.S.W., Rutgers; D.Min., Southeastern Seminary; Ph.D., Rutgers

Danielle Beatty-Moody, Associate Professor and Chancellor-Provost's Scholar for Inclusive Excellence in Multilevel Racism and Life Span Health; M.A, North Carolina Central, Ph.D., City University of New York

Doug Behan, Associate Professor of Professional Practice and Director of Continuing Education; M.S.W., D.S.W., Rutgers

Natalie Bembry, Assistant Professor of Teaching and Director of the Baccalaureate (BASW) Program in Camden; M.S.W., Monmouth; Ed.D., Rowan

Mariann Bischoff, Assistant Professor of Teaching and Management and Policy Practicum Specialist; M.S., Cornell; M.S.W., Monmouth

Marla Blunt-Carter, Associate Professor of Professional Practice for Political Social Work; M.S.W., Rutgers

Emily Adlin Bosk, Associate Professor; M.S.W., Ph.D., Michigan (Ann Arbor)

Qiana Brown, Assistant Professor; M.P.H., M.S.W., Alabama; Ph.D. Johns Hopkins

Elsa Candelario, Professor of Professional Practice and Director of the Latina/o/x Initiatives for Service, Training, and Assessment (L.I.S.T.A.) Certificate Program; M.S.S.W., Columbia, D.S.W., Alabama

Chistine Chapais, Assistant Professor of Teaching and Director of Online MSW Programs, M.S.W., Kean, D.S.W., Rutgers

Ryon Cobb, Assistant Professor and Chancellor-Provost's Scholar for Inclusive Excellence in Research on Black Americans; Ph.D., Florida

Sandra Crewe, Sojourner Truth Social & Racial Justice Visiting Professor: M.S.W., Catholic University, Ph.D., Howard

Stephen Crystal, Distinguished Research Professor; M.A., Ph.D., Harvard

Laura Cuesta, Associate Professor; M.A., Ph.D., Wisconsin (Madison)

Julia Cusano, Assistant Research Professor; M.S.W., Ph.D., Rutgers

Maxine Davis, Assistant Professor and Chancellor-Provost's Scholar for Inclusive Excellence in Intimate Partner Violence Prevention & Intervention; M.S.W., M.B.A., Dominican, Ph.D., Washington (St. Louis)

Rebecca Davis, Director, Associate Professor of Professional Practice and Director of the Office of Global Social Work Programs; M.S.W., North Carolina (Chapel Hill); Ph.D., North Carolina (Greensboro)

Ryan DiMeglio, Assistant Professor and Co-Director for the Addiction Counselor Training (A.C.T.) Certificate Program; M.S.W., Rutgers

Richard L. Edwards, University Distinguished Professor, Chancellor Emeritus, Dean Emeritus; M.A.S.W., Chicago; Ph.D., SUNY (Albany)

Antoinette Y. Farmer, Professor, Associate Dean for Diversity, Equity and Inclusion and Interim Associate Dean for Academic Affairs; M.S., Ph.D., Pittsburgh

Adrian Gale, Assistant Professor; M.S.W., Ph.D., Michigan

E. Goldblatt Hyatt, Associate Professor for Reproductive Justice and Director of the Doctoral (D.S.W.) Program; ;M.B.E., M.S.W., D.S.W., Pennsylvania

Emily Greenfield Cohen, Professor and Director of the Hub for Aging Collaboration; M.S., Ph.D., Wisconsin (Madison)

Anna Haley, Associate Professor; M.A., Ph.D., Chicago

Caroline Harmon-Darrow, Assistant Professor; M.S.W., Ph.D., Maryland (Baltimore)

Bernardo Hiraldo, Assistant Professor of Teaching and Associate Director of Practicum Learning and Camden Campus Coordinator; M.S.W., New York

Chien-Chung Huang, Professor and Associate Dean for Faculty Development; M.S.W., Chung-Cheng (China); Ph.D., Columbia

Tawanda L. Hubbard, Associate Professor of Professional Practice; M.S.W., D.S.W., Rutgers, Ph.D., Montclair

Amml F. Hussein, Associate Professor of Teaching, M.S.W., Rutgers, Ed.D., East Stroudsburg

Ashley Jackson, Assistant Professor; M.S.W., Chicago, Ph.D. Washington (St. Louis)

Rachel John, Assistant Professor and Chancellor-Provost's Scholar for Inclusive Excellence for Immigrant and Refugee Health; M.S.W., Pennsylvania, M.P.H., Drexel, Ph.D., Boston

Michael Myungkook Joo, Associate Professor; M.S.W., South Carolina; Ph.D., Washington (St. Louis)

Woojin Jung, Assistant Professor; M.S.W., Washington (St. Louis); Ph.D., California (Berkeley)

Christine E. Kephart, Assistant Professor, D.S.W. Program; M. Phil. Eng. Lit., Ph.D., Drew

Rupa Khetarpal, Associate Professor of Teaching and Director of the Interpersonal Violence & Trauma (I.V.T.) Certificate Program; M.A., Jadavpur (India); M.S.W., Ph.D., Rutgers

Joy Jeounghee Kim, Associate Professor; M.S.W., South Carolina; Ph.D., Washington (St. Louis)

Mark W. Lamar, Associate Professor of Professional Practice and Executive Director, Office of Practicum Learning; M.S.W., M.B.A., Rutgers

George S. Leibowitz, Dean and Distinguished Professor; M.S.W., Ph.D., Denver

Jack Lewis, Associate Professor of Professional Practice and Director of the Intensive Weekend Program; M.S.W., D.S.W., Pennsylvania

Jamey Lister, Associate Professor; M.S.W., Michigan; Ph.D., Rutgers

Angela Malorni, Assistant Professor; M.S.W., M.P.A., Ph.D., Washington

Katherine Marçal,, Assistant Professor, M.S.W., Ph.D., Washington (St. Louis)

Judith McCoyd, Associate Professor and Associate Director of Doctoral Programs; M.S.W., Columbia; Ph.D., Bryn Mawr College

Sarah McMahon, Professor and Director, Center for Research on Ending Violence and Special Advisor to the president for sexual misconduct prevention and response; M.S.W., Ph.D., Rutgers

Christine Morales, Assistant Professor of Teaching and Assistant Dean of Lecturer Support; M.S.W., Southern California; Ed.D., Rutgers

Cory Morton, Assistant Research Professor: M.S.W., East Tennessee State, Ph.D., Rutgers

Felix Muchomba, Associate Professor; M.P.H., Ph.D., Columbia

Lenna Nepomnyaschy, Professor; M.S.W., Rutgers; Ph.D., Columbia

Lia Nower, Distinguished Professor and Associate Dean for Research, Director, Center for Gambling Studies and Co-Director of Addiction Counselor Training Certificate Program; J.D., St. Louis; Ph.D., Washington

Michael Park, Assistant Professor and Chancellor-Provost's Scholar for Inclusive Excellence in Racial Minority Health; M.S., Ph.D., Chicago

N. Andrew Peterson, Distinguished Professor and Director of the Center for Prevention Science; M.A., Ph.D., Missouri (Kansas City)

Cathryn C. Potter, Dean Emerita and Distinguished Professor; M.S.W., Washington; Ph.D., Denver

Kristen Gilmore Powell, Associate Research Professor and Associate Director, Center for Prevention Science; M.S.W., Ph.D., Rutgers

Chiara Sabina, Professor and Associate Director, Center for Research on Ending Violence and Chancellor's Scholar for Inclusive Excellence in Interpersonal Violence Research; M.A., Ph.D., Loyola (Chicago)

Raymond Sanchez Mayers, Professor Emeritus; M.S.W., Barry; Ph.D., Brandeis

Tangela Sawyerr, Assistant Professor of Teaching and Assistant Director of Student Affairs (Camden); M.S.W., M.A. in Criminal Justice and D.S.W., Rutgers

Nancy Schley, Assistant Professor of Teaching and Associate Director of Practicum Learning; M.S.W., Columbia

Gina L. Sharpe, Assistant Professor of Teaching and Assistant Director, Continuing Education; M.S.W., New York

Cassandra Simmel, Associate Professor and Director of the Ph.D. Program; M.S.W., Ph.D., California (Berkeley)

Karun Singh, Professor of Teaching; M.S.W., Ph.D., Columbia

Lauren Snedeker, Assistant Professor of Teaching and Director of the Aging and Health (A&H) Certificate Program; M.S.W., New York, D.S.W., Rutgers

Jackie Stanmyre, Assistant Professor and Assistant Director of the Center for Gambling Studies; M.S.W., Ph.D., Rutgers

Amy Strickler, Assistant Professor of Teaching and Assistant Director, Intensive Weekend Program; M.S.W., Columbia

Trinay V. Thomas, Assistant Professor of Teaching, Associate Director of Practicum Learning and Newark Campus Coordinator; M.S.W., Rutgers

Emmy Tiderington, Associate Professor; M.S.W., Michigan (Ann Arbor); Ph.D., New York

Mark van der Maas, Assistant Professor; M.A., Ph.D., Toronto

Grant Victor, Assistant Professor; M.S.W., Ph.D., Kentucky

Durrell M. Washington Sr., Assistant Professor, M.S.W., Columbia, Ph.D., Chicago

Abigail Williams, Assistant Professor; MA., M.S.W., Illinois (Urbana-Champaign); Ph.D., Michigan

Allison Zippay, Professor; M.S.W., Ph.D., California (Berkeley)

Karen Zurlo, Associate Professor; M.B.A., M.S.W., Ph.D., Pennsylvania

Practicum Agencies (SSW-G)

PRACTICUM AGENCIES

Practicum placements are available in a wide variety of sites representing agencies serving clients across the life span. Geographically, there are placements available throughout New Jersey, New York, and Philadelphia. International placements may also be considered.

About the School of Management and Labor Relations (SMLR-G)

ABOUT THE SCHOOL OF MANAGEMENT AND LABOR RELATIONS

The School of Management and Labor Relations (SMLR) seeks to create and disseminate knowledge that fosters a better understanding of the nature of employment and work in modern society; promotes harmony and cooperation between management and labor; helps to improve employment systems and relationships; and encourages understanding among diverse groups.

In pursuit of this mission, SMLR faculty members conduct research, organize credit and noncredit programs, and provide technical assistance to employers and labor organizations.

Faculty (SMLR-G)

Faculty

The School of Management and Labor Relations has an outstanding, internationally known faculty, many of whom are leaders in their respective fields. Faculty members contribute to their disciplines in the following ways: disseminating knowledge by teaching students; offering their service to public, private, professional, and scholarly organizations; and publishing scholarly articles in the top human resource management and industrial relations journals.

Vikrant Advani; M.A., Rutgers
Labor and employment relations

Mark S. Anner, Dean of Rutgers School of Management and Labor Relations; Ph.D., Cornell University
Government

Scott Bentley; Ph.D., Rutgers
Industrial relations and human resources

Eric Blanc; Ph.D., New York University
Sociology

Joseph R. Blasi; Ed.D., Harvard
Sociology of organizations

Dana Britton; Ph.D., Texas (Austin)
Sociology

William Brucher; Ph.D., Brown
History

Nichelle Carpenter; Ph.D., Texas A&M
Industrial/organizational psychology

William Castellano; Ph.D., Rutgers
Industrial relations and human resources

Stephanie Chan-Ahuja; Ph.D., London Business School
Organizational behavior

Tracy F.H. Chang, Associate Dean for Academic Affairs; Ph.D., University of Iowa, sociology; M.B.A., New York University

Rosemarie Cipparulo; J.D., Rutgers

Ashley Conway; M.A., American
Organizational development and change

James M. Cooney; J.D., Miami

Sheri Davis; Ph.D., Emory
American studies

Lindsay Yasmin Dhanani; Ph.D., Central Florida
Industrial/organizational psychology

William Dwyer; M.A., Rutgers
Labor and industrial relations

Adrienne E. Eaton; Ph.D., Wisconsin
Industrial relations

Rania Elanwer, Ph.D., Pennsylvania State
Human resource and organizational development

Hadi El-Farr; Director, Online Professional Master of Human Resource Management Program; Ph.D., Leeds
Human Resource Management

Jie (Jasmine) Feng; Ph.D., Wisconsin (Madison)
Management and human resources

David A. Ferio, Director, Master of Human Resource Management Program; A.B.D., M.S. technology management, Stevens Institute of Technology

Janice Fine; Ph.D., Massachusetts Institute of Technology
Political science

Rebecca Kolins Givan; Ph.D., Northwestern
Political science

Rebecca Greenbaum; Ph.D., Central Florida
Business administration

Ryan Greenbaum, Director, Undergraduate Program in Human Resource Management; M.B.A., Oklahoma State
Business administration

Christopher Hayes; Ph.D., Rutgers
American history

Hazel-Anne M. Johnson-Marcus, Associate Dean for Diversity, Equity and Inclusion; Ph.D., South Florida
Industrial-organizational psychology

William Kane; Ph.D., Fielding Graduate
Organizational development and change

Carla Katz; J.D., Seton Hall

Douglas Kruse; Ph.D., Harvard
Economics

David (DK) Kryscynski, Ph.D., Emory
Organization and management

Sheila Lawrence; Ph.D., Rutgers
Applied statistics and sociology/demography/quantitative

Barbara A. Lee; Ph.D., Ohio State, higher education administration; J.D., Georgetown

Tamara L. Lee; Ph.D., Cornell, industrial relations; J.D., Chicago-Kent College of Law

Mingwei Liu, Associate Dean for Research; Ph.D., Cornell
Industrial and labor relations

Xiangmin (Helen) Liu; Ph.D., Cornell
Human resource studies

Anne-Michelle Marsden; M.S., Florida State
Human sciences

Carmen Martino; M.A., Rutgers
Labor studies

Joseph McCune; Ph.D., Michigan State
Industrial/organizational psychology

Jessica R. Methot, Director, Ph.D. Program in Industrial Relations and Human Resources; Ph.D., Florida
Organizational behavior

Christopher Michael, Ph.D., CUNY, political science; J.D., School of Law (CUNY)

Akhila Naik; J.D., CUNY

Julie Peters, Director, James B. Carey Library; M.L.I.S., Rutgers

Danielle Phillips-Cunningham; Ph.D., Rutgers
Women's and gender studies

Michael Beyea Reagan, Ph.D., Washington
History

Yana van der Muelen Rodgers, Chair, Department of Labor Studies and Employment Relations; Ph.D., Harvard
Economics

Ralph Rodriguez; Ph.D., Temple
Human resource management

Peter Rokkos; J.D., Boston

Saul Rubinstein; Ph.D., Massachusetts Institute of Technology
Management

Francis Ryan; Director, Master of Labor and Employment Relations Program; Ph.D., Pennsylvania
History

Tobias Schulze-Cleven; Ph.D., California (Berkeley)
Political science

Lisa Schur; Ph.D., California, Berkeley, political science; J.D., Northeastern

Susan J. Schurman; Ph.D., Michigan
Higher adult and continuing education

Youjeong Song; Ph.D., Minnesota
Business administration

Michael C. Sturman, Chair, Department of Human Resource Management; Ph.D., Cornell
Industrial and labor relations

Kyra Leigh Sutton; Ph.D., Ohio State
Labor and human resources

James Terez; M.A., Rutgers, English; M.B.A., New York, Accounting

Christopher To; Ph.D., New York University
Management

Todd E. Vachon; Ph.D., Connecticut
Sociology

Michelle Van Noy; Ph.D., Columbia
Sociology and education

Paula B. Voos, Academic Program Director, Labor Studies and Employment Relations; Ph.D., Harvard
Economics

Naomi R Williams; Ph.D., Wisconsin (Madison)
History

Facilities (SMLR-G)

Facilities

The School of Management and Labor Relations (SMLR) is primarily housed within the Janice H. Levin Building on the Livingston campus at Rutgers University-New Brunswick. The academic program offices, student advising staff, career management support staff, and most faculty offices for the Department of Human Resource Management and the Department of Labor Studies and Employment Relations are located here.

The Labor Education Center on Rutgers' George H. Cook campus houses a limited number of faculty offices for the Department of Labor Studies and Employment Relations, along with a large auditorium and meeting spaces for academic classes and extension programs for the union movement and the labor relations communities. All academic buildings have wireless networks and are equipped for web-based instruction.

SMLR's students and faculty are supported by the James B. Carey Library, which contains a specialized collection of journals, texts, reporting services, and databases in labor and employment relations and human resource management.

Advisory Bodies (SMLR-G)

Advisory Bodies

The SMLR State Advisory Council (SAC) is a select group of advisors who provide the Dean and the executive leadership team with insights and perspectives on the goals and priorities of Rutgers School of Management and Labor Relations.

Established by the statute that created the original Institute of Management and Labor Relations in 1947, the SAC is composed of representatives and leaders from management, labor and the public. Members are regionally or nationally prominent in their field with a strong background in public service and community engagement. They are nominated by the Dean and appointed by the Rutgers Board of Governors. Council members serve two to three-year terms, with the option to renew at the discretion of the Dean.

The SAC serves a critical role in linking the school's strategic objectives and activities with the interests of external constituents and stakeholders. The SAC's primary goal is to provide advice to the school's leadership on strategic direction and in the development of programs and curricula that will have a positive impact on management practice, union practice, public policy and society at large.

Degree Programs (SMLR-G)

Degree Programs

The School of Management and Labor Relations (SMLR) offers programs at both the graduate and undergraduate levels. The SMLR faculty conducts programs leading to a bachelor of arts degree in human resource management and a bachelor of arts degree in labor studies and employment relations, both of which are conferred jointly by the School of Arts and Sciences and the School of Management and Labor Relations.

The bachelor of science in labor and employment relations, the master of human resource management, and the master of labor and employment relations professional degrees are conferred by the faculty of SMLR. The doctor of philosophy degree in industrial relations and human resources is administered through the SMLR faculty and awarded by the School of Graduate Studies.

Undergraduate Study (SMLR-G)

Undergraduate Study

The School of Management and Labor Relations (SMLR) prepares students for jobs in a variety of fields including, but not limited to, labor or community organizations, neutral agencies, and corporations, nonprofit agencies, and management. Many graduates of our undergraduate programs go on to law school, to professional labor relations or human resources programs, or to graduate school.

Students must achieve a grade of C or better in all courses used to fulfill the requirements of their major or minor.

Bachelor of Arts (B.A.) in Labor Studies and Employment Relations
The B.A. is a joint degree from SMLR and the School of Arts and Sciences (SAS). This major is designed to explore the nature of work and the workplace. Students study how work is managed, the problems of working people, and what workers have done as individuals and groups to address these problems.

Bachelor of Science (B.S.) in Labor and Employment Relations
With varied scheduling and generous credit transfer guidelines, the B.S. degree in labor and employment relations is designed to help students with at least one year of college complete a bachelor's degree in labor and employment relations through a flexible combination of online, daytime, weekend, evening, and/or off-campus courses. Students study how work is managed, the problems of working people, and what workers have done as individuals and groups to address these problems.

Bachelor of Arts (B.A.) in Human Resource Management
The B.A. degree in human resource management is a joint degree from SMLR and SAS. It is a multidisciplinary major that draws heavily from business strategy, psychology, economics, and sociology.

Minor in Labor Studies and Employment Relations
The minor in labor studies and employment relations consists of six courses offered by the department, for a total of 18 credits. The department also offers minors focused on one of the five areas of the field including law and the workplace; diversity in the workplace; work organization and management; labor unions and social movements; and work, globalization, and immigration. All minors must include either Introduction to Labor Studies and Employment Relations (37:575:100) or Work, Society, and the Quality of Life (37:575:110).

Minor in Human Resource Management
The minor consists of six courses, including Introduction to Human Resource Management (37:533:301); the following four core courses: Talent Acquisition (37:533:311); Developing Talent (37:533:312); Compensation & Total Rewards (37:533:313); and Employment Law (37:575:315), and one additional HRM elective course.

Graduate Study (SMLR-G)

Graduate Study

Human Resource Management
The school's master of human resource management (M.H.R.M.) degree is one of the top human resource management programs in the United States. Graduates of this program are working in major corporations, government agencies, and nonprofit organizations across the country. While the M.H.R.M. degree prepares students to assume human resource generalist or specialist positions, it also is appropriate for line managers who want to learn how to develop and better manage people.

The program helps students develop skills in recruiting, selecting, compensating, training, and developing employees. At the same time, it gives students a knowledge of human resource information systems, performance management, and human resource planning within a strategy framework. The student body comprises individuals from throughout the United States and the world. Program participants come from a variety of undergraduate majors and work experiences.

For those who have interest and qualify, a unique analytics track concentration is available. This is a state-of-the art offering that helps prepare those for employment opportunities in HR analytics typically within Fortune 100 corporations.

Master of Labor and Employment Relations
The master of labor and employment relations (M.L.E.R.) degree provides a broad, multidisciplinary education to produce graduates who are thoughtful professionals, informed leaders, and/or researchers grounded in contemporary reality. The M.L.E.R. program at Rutgers allows students to specialize by combining required classes with carefully-selected electives. Students can, in consultation with their adviser, tailor their program to meet their own individual needs.

The faculty has produced the largest body of scholarly work in the world rethinking labor strategies and structures for organizing and representing workers and social movements in the 21st century. Current areas of research and specialization include new forms of social movements, labor representation, and union revitalization; immigration and globalization; and diversity and labor market barriers faced by disadvantaged groups. The student body comprises individuals from throughout the United States and the world. Program participants come from a variety of undergraduate majors and work experiences.

Graduates leave the school prepared for careers with unions, nonprofit organizations, corporations, government agencies, and other organizations. Some enter law school after completing the degree or go on to doctoral programs.

Industrial Relations and Human Resources
The Ph.D. in industrial relations and human resources (I.R.H.R.) is designed to prepare students for teaching and research careers in industrial relations and human resource management. The program, which enrolled its first students in 1990, has developed a national reputation for its high standards.

Nondegree and Extension Programs (SMLR-G)

Nondegree and Extension Programs

The School of Management and Labor Relations (SMLR) offers a variety of continuing education programs for professionals.

Continuing education programs at the Rutgers School of Management and Labor Relations develop and deliver innovative learning and development solutions that strengthen and advance the individual, workforce, and organization as a whole. Our programs provide a rich learning environment through a powerful combination of expert class instruction and peer interaction, led by distinguished Rutgers University faculty, thought leaders, and industry experts.

Courses and workshops are available for individuals to enhance their knowledge and skills, and a robust portfolio of corporate programs can be tailored to a variety of workplace settings.

More information is available on the SMLR website at Continuing Education.

Labor Education Action Research Network (LEARN) offers a wide range of noncredit and continuing education training programs for union members and management representatives, as well as the organizations and professions that are associated with these groups. LEARN students are emerging leaders across the state of New Jersey who want to enhance their personal knowledge and workplace skills. The individuals enrolled in LEARN programs are as diverse as the industries in which they work, including building trades, education, safety, customer service, telecommunications, health care, and government. LEARN also offers a **Public Sector Labor-Management Relations Certificate Program** that is jointly sponsored by the New Jersey Public Employment Relations Commission (PERC) and SMLR. All courses are taught by Rutgers University faculty, PERC staff, and experienced labor-management professionals. The classes are open to all interested members of the public sector labor-management community. Participants will earn an Achievement Certificate from Rutgers University.

SMLR Research Centers (SMLR-G)

SMLR Research Centers

The Center for Global Work and Employment explores the consequences of a deepening global economy for the governance of work through research, curriculum innovation, and public engagement.

The Center for Innovation in Worker Organization promotes movement-building, offering multiple levels of support and mentoring to diverse workers and community organizations. We foster vibrant peer networks to advance innovative strategies, leadership, and structures rooted in racial, gender, and economic justice.

The Center for the Study of Collaboration in Work and Society develops the understanding of effective collaboration as theory and practice. Our research examines how collaboration fosters achievement, strengthens partnerships, and improves performance in diverse workplaces.

The Center for Women and Work promotes the equity and advancement of women workers, their families, and their communities. We research successful public and workplace policies and provide technical assistance and programs to educators, industry, and governments.

The Education and Employment Research Center examines the intersection between education and work to inform policy and practice. We seek to improve equity and quality in education and training for students and workers, the institutions that serve them, and the broader economy.

The Institute for the Study of Employee Ownership and Profit Sharing studies current and future models of employee ownership and profit shares in the US and around the world. We focus on approaches that broaden financial participation, facilitate worker engagement and prosperity, and increase inclusion in businesses and the economy.

The NJ/NY Center for Employee Ownership communicates a better understanding of employee ownership among diverse business owners, policymakers, employees, and others. Its goal is to create more employee-owned companies that retain and expand the local workforce and strengthen the economies of New Jersey and New York.

The Program for Disability Research conducts and coordinates research on the economic, social, and political inclusion of people with disabilities. We focus on solutions that support the increased employment and political participation of people with disabilities.

The Workplace Justice Lab@RU supports, strengthens, and fosters innovations in government and grassroots organizations. We build dynamic communities of learning and practice, conduct research, and offer specialized resources and consultations.

Academic Policies and Procedures (SMLR-G)

ACADEMIC POLICIES AND PROCEDURES

Note: See the **University Policies and Procedures** section in the Rutgers Main catalog for university-wide academic policies and procedures.

Registration and Course Information

Class Schedules and Hours

Grades and Records

Academic Standing

Registration and Course Information (SMLR-G)

REGISTRATION AND COURSE INFORMATION

Formal admission to the School of Management and Labor Relations (SMLR) and payment (or arrangement with the cashier regarding payment) of tuition and fees are a part of the registration process. Students who have not properly registered may not attend classes.

All students who complete registration on time receive registration information for the following semester. Those who take part in registration receive term bills for the following semester. All students, regardless of method of payment, must make contact with the cashier each semester or their registration will be canceled.

Students who do not receive registration information by March 15 for the fall semester and by October 15 for the spring semester should contact the appropriate department. Newly admitted students receive complete registration instructions at the time of their admission.

It is the responsibility of the student to remain in communication with the director of the program for which he or she is matriculated.

A student admitted into a degree program of SMLR is expected to remain registered in every fall and spring semester thereafter until completing the program and earning the degree. If a student anticipates requiring a leave of absence for a semester, he or she may register for matriculation continued status. Any student who fails to maintain continuous registration may not resume formal study or register again in SMLR without first applying for readmission. Master's degree students may apply for readmission after up to two semesters during which they were not registered. After two semesters, they must file a new application.

Additional graduate student registration policies can be found on the registrar's website at the Office of the Registrar.

Matriculation Continued

Matriculation Continued

Students who must interrupt their studies may, with the approval of their department director, register for Matriculation Continued for a maximum of two consecutive semesters. There is no tuition fee for this registration, though a student fee is charged each semester. This category of registration is available to students not present on campus and not using faculty time and university research facilities. Graduate and postgraduate students who are away from campus but working on their theses or dissertations and in contact with their committees are required to register for a minimum of one credit of research per semester. Master's degree students who are on campus and engaged in research must register for a minimum of one credit per semester. Late registration for Matriculation Continued or one credit of research (unless necessary for degree requirements) is not permitted beyond the second week of the semester. After this time, the student is required to apply for readmission and, depending on degree status, may be subject by the university to a restoral fee.

Registration and Course Information (SMLR-G)

Summer Registration

Summer Registration

The requirement of the School of Management and Labor Relations that its students remain in continuous registration from the time they are admitted until their degrees are earned applies only to the regular academic year (spring and fall semesters), not Summer Session. Summer Session registration forms and instructions are sent to each student with the fall semester registration instructions. Summer Session catalogs are available online or at the registrar's office.

Registration and Course Information (SMLR-G)

Change of Registration and Withdrawal

Change of Registration and Withdrawal

After the university add/drop period ends, the only routine permissible changes of registration are withdrawals from individual courses or withdrawal from the university. Both actions are allowed without academic penalty until the end of the seventh week of the semester. The date on which the registrar receives notice of withdrawal from the student governs the academic and financial consequences of the withdrawal. Any student withdrawing from a course after the seventh week needs the approval of the dean's office, and is required to provide a letter indicating academic status in the course from the course instructor. A student who stops attending a course without notifying the registrar will receive a failing grade in that course. No refunds of tuition are given for individual course withdrawals after the add/drop period ends. A student who withdraws from all courses may receive a partial refund, however, according to the rules described on the registrar's website. Withdrawal is not permitted during the last two weeks of classes.

Registration and Course Information (SMLR-G)

Transfer of Credit

Transfer of Credit

Students may not transfer credits for courses taken at other institutions until they have completed at least 12 credits of coursework with a grade of B or better as a matriculated student at the School of Management and Labor Relations. The courses being transferred must relate directly to a student's program of study at Rutgers, and the student must have received a grade of B or better in them. No credit may be transferred for thesis research work, coursework done as independent study, or work in courses that were not graded. Grades of P or S are eligible for transfer if equivalent to a grade of C or better for undergraduate courses, and B or better for graduate courses.

Permission is required to transfer credit for courses taken more than six years prior to the application for transfer of credit.

Undergraduate Transfer Credits
The following limits are set on the maximum number of transferable undergraduate degree credits

- No more than 60 credits from two-year institutions
- No more than 90 credits from four-year institutions
- No more than 12 of the last 42 credits earned for the degree may be transfer credits.

Graduate Transfer Credits
No more than 40 percent of the credits required for a master's degree may be transferred from another institution. Quarter credits will be converted to semester credits by reducing the total by one-third. The following limits are set on the maximum number of transferable undergraduate degree credits:

- No more than 12 credits may be transferred for the master of labor and employment relations program
- No more than 18 credits may be transferred for the master of human resource management program

For transfer of graduate-level courses taken as an undergraduate student, a letter is required from the registrar of the institution involved stating that the course or courses were not used toward an undergraduate degree. Applications for transfer of credit are available from graduate program directors.

Registration and Course Information (SMLR-G)

Intercollege Registration

Intercollege Registration

A student in the School of Management and Labor Relations may apply to take a course offered by another division of the university, but other approvals may be required. Consult the Schedule of Classes.

Registration and Course Information (SMLR-G)

Multiple School Registration

Multiple School Registration

A student may not be registered simultaneously in two or more units of the university. Students wishing to take courses in more than one unit in the same semester or those who wish to take courses in units in which they are not enrolled may accomplish this through intercollege registration.

When a student makes multiple applications and is offered admission to more than one unit of the university, that student may register in only one. When a student has been admitted to a graduate and undergraduate unit, the registration will be in the graduate unit.

This policy is in no way intended to abridge a student's freedom to simultaneously pursue two degrees in two units. Such students must keep both units informed of their academic progress, since they will be registered in only one unit.

Registration and Course Information (SMLR-G)

Courses Taken "Not for Credit"

Courses Taken “Not for Credit”

Students who wish to enroll in a graduate or a 100- through 400-level undergraduate course and perform all the assigned work except the final exam without receiving credit may do so if they secure the advance approval of their advisers. When they register, they must indicate "not for credit" status by entering the symbol N. They must pay the normal graduate tuition fee for the course and fulfill the same requirements as other students during the semester, including doing all written assignments. At the end of the semester, however, they do not take the final examination, and they are assigned a grade of S (satisfactory) or U (unsatisfactory). The course and the letter grade are included on the student's record, but no credit toward a degree is given. See Grades and Records in this chapter for information regarding credit prefixes.

Registration and Course Information (SMLR-G)

Auditing Courses without Registration

Auditing Courses without Registration

Upon obtaining the permission of the instructor of the course and subject to the availability of space, full-time students may audit courses without registration. It is understood that no academic credit is earned in this manner. No official record is kept of audited courses.

Registration and Course Information (SMLR-G)

Graduate Enrollment in Undergraduate Courses

Graduate Enrollment in Undergraduate Courses

Any course numbered 500 or above is designed for graduate students and normally carries credit toward a graduate degree. Certain advanced undergraduate courses in the 300 and 400 levels also may be approved for graduate students, either as a regular part of their graduate program or to remedy a deficiency in preparation. When a graduate student is permitted to enroll in a course numbered below 500, the credit prefix E, G, or N may appear on the registration and record forms. See Grades and Records later in this chapter for rules related to credit prefixes. No more than 12 credits of courses numbered between 300 and 499 may be counted toward fulfilling the requirements for advanced degrees. Students registering in undergraduate courses are subject to the policies of the undergraduate division offering the course.

Registration and Course Information (SMLR-G)

Undergraduate Enrollment in Graduate Courses

Undergraduate Enrollment in Graduate Courses

Qualified undergraduate students in the university who wish to study in courses offered by the graduate faculty are welcome to do so if they receive written approval from the department. Students must have senior standing and a cumulative grade-point average of at least 3.00.

Registration and Course Information (SMLR-G)

Minimum and Maximum Programs

Minimum and Maximum Programs

The unit of credit used in Rutgers registration is based in part upon a measure of time, with 1 credit equal to one class hour a week through a 15-week semester. For a 3-credit course, a qualified and competent student should require, on average, nine hours a week (in and out of the classroom or lab) to carry out satisfactorily the work expected. One credit of laboratory requires three class hours of work per week. A full-time graduate program is defined by the university as 9 credits a semester. The maximum program is normally 15 credits, although under some circumstances registration for a maximum of 18 credits is permitted with approval of the program director. Fellows and assistants also must register their appointments according to directions provided by the registrar at the time of registration and submit form RT100 to the Office of Student Accounts.

To help ensure a student's success in meeting the rigors of university study, it is recommended that any student holding employment outside the university that averages 16 or more hours per week not register for more than 9 credits per semester. Any student employed for 30 or more hours per week should not register for more than 6 credits per semester.

Registration and Course Information (SMLR-G)

Full-Time and Part-Time Students

Full-Time and Part-Time Students

The unit of credit used in Rutgers registration is based in part upon a measure of time, with 1 credit equal to one class hour a week through a 15-week semester. For a 3-credit course, a qualified and competent student should expect, on average, nine hours per week (in and out of the classroom or lab) to satisfactorily carry out the expected coursework. One credit of laboratory work requires three class hours of work per week.

- A full-time graduate program is defined by the university as 9 credits per semester. The maximum program is normally 12 credits, although under some circumstances registration for a maximum of 15 credits is permitted with approval of the program director. Fellows and assistants also must register their appointments according to directions provided by the registrar at the time of registration and submit form RT100 to the Office of Student Accounts. Graduate and teaching assistants who hold half-time (one-third line) academic appointments register their assistantships for 6 E credits (for which no tuition fee is paid).

These 6 E credits, together with 6 credits of courses or research, qualify them as full-time students in the School of Management and Labor Relations. All courses, including courses of research and regular courses undertaken "not for credit" (E and N prefixes), are counted in measuring the student's recordable program of work.

- A full-time undergraduate program is defined by the university as 12 credits per semester.

These regulations govern tuition charges, student fees, statistical records, residency requirements, and other issues affected by definitions of full-time and part-time status.

Registration and Course Information (SMLR-G)

Nonmatriculated Graduate Students

Nonmatriculated Graduate Students

Nonmatriculated registration is available for those individuals who want to ease into graduate study or for those who seek training in a specific topic. These students need not produce test scores, but the school does require a minimum undergraduate cumulative grade-point average of 3.00. If the student later is admitted to a School of Management and Labor Relations program, those credits taken as a nonmatriculated student will be counted toward the degree. A maximum of 12 credits may be taken as a nonmatriculated student in the master's in labor and employment relations (M.L.E.R.) program, and the maximum is 9 credits in the master's in human resource management (M.H.R.M.) program.

Registration and Course Information (SMLR-G)

Change of Graduate Program

Change of Graduate Program

A change of curriculum within the School of Management and Labor Relations requires the approval of the graduate program director and the dean. The transaction is not complete until notice of the approved change has been received from the program director.

Registration and Course Information (SMLR-G)

Change of Status (Graduate Students)

Change of Status (Graduate Students)

Students wishing to change their status within a graduate program, such as from nonmatriculated to matriculated, should file the appropriate form with the department.

Any student who has earned a terminal degree in the School of Management and Labor Relations and who desires to continue as a nonmatriculated student should apply for a change of status. To avoid the need for readmission, people in this category should apply without letting their registrations lapse. Foreign students must notify the International Student and Scholar Services (ISSS) of a change in status.

Registration and Course Information (SMLR-G)

Readmission or Restoration of Active Status

Readmission or Restoration of Active Status

Students who have interrupted their graduate studies without receiving a degree in the program for which they were enrolled must apply for readmission if they wish to continue in that program. Appropriate forms are available from the graduate program directors. All students who have interrupted their graduate studies must request readmission within two semesters following their last registration. After this, the prospective student must submit a new application for admission to the Office of Graduate and Professional Admissions (applicants may request that previously submitted records be used). The letters of recommendation should originate from faculty members at Rutgers with whom the student previously studied. In all other respects, including payment of the application fee and submission of official transcripts of all previous academic work, the application procedure is the same as the student's original application for admission.

Class Schedules and Hours (SMLR-G)

CLASS SCHEDULES AND HOURS

Starting and closing dates for each semester, scheduled holidays, and other important scheduling information can be found in the academic calendar. Undergraduate class periods are sometimes 80 minutes in length, meeting twice a week, and sometimes 160 minutes in length, meeting once a week. Graduate class periods are typically 160 minutes in length, meeting once a week unless otherwise specified. There are 15 weeks of instructional activity for each course. The Thanksgiving week schedule is rearranged to allow all classes to meet 15 sessions during the semester. The majority of graduate classes are offered starting at 4:30 p.m, 5:40 p.m., or 7:20 p.m. Most courses in the Ph.D. in industrial relations and human resources program are offered between 9 a.m. and 5 p.m. Classes may be offered at different times at the discretion of the individual department. Check with the department and consult the schedule of classes for courses offered each semester.

Class Schedules and Hours (SMLR-G)

Attendance

Attendance

In accordance with Rutgers University regulations, attendance is expected at all regularly scheduled meetings of a course and individual courses may set policies for maximum absences. Absences due to religious observance, participation in university-sponsored events or activities such as intercollegiate athletics, or documented chronic

illness are treated as authenticated absences. Authenticated absences do not waive the overall policy for attendance. Students who must, for any reason, miss more than an occasional class should consult with their instructors and an academic adviser.

Students missing an occasional class for unverifiable illness or personal circumstances do not require written documentation or verification. In these circumstances, it is the responsibility of the student to submit the absence through the Rutgers Self-Reporting Absence Website, which automatically generates email notification to faculty teaching the student. Reporting an absence does not automatically "excuse" missed work. It notifies instructors, a courtesy that provides an opportunity for students to contact their instructors about missed work. In addition to reporting an absence through the online system, students are encouraged to contact their instructors directly. It is up to the instructor to determine if accommodations are warranted to allow students to make up work that counts toward their semester grade.

Class Schedules and Hours (SMLR-G)

Absence Due to Religious Observance

Absence Due to Religious Observance

It is the policy of the university to excuse without penalty students who are absent because of religious observances and to allow the makeup of work missed because of such absences. Examinations and special, required, out-of-class activities ordinarily will not be scheduled on those days when such students refrain from participating in secular activities. Absences for reasons of religious obligation will not be counted for reporting purposes. A student absent from an examination because of required religious observance will be given an opportunity to make up the examination without penalty.

Class Schedules and Hours (SMLR-G)

Cancellation of Classes

Cancellation of Classes

In the event of a weather emergency, a University Operating Status page will be posted on the Rutgers University-New Brunswick website. Please refer to this page for updated information on closings, class cancellations, or delayed openings.

Sign up to receive emergency text alerts by subscribing to Emergency Notification System (NetID required)

Campus status information will also be available through the following media providers and their websites:

- News-12 New Jersey
- New Jersey 101.5 (FM)
- WCTC Radio (1450 AM)
- WCBS Radio (880 AM)
- WRNJ Radio (1510 AM, 104.7 and 92.7 FM)
- WRSU Radio (88.7 FM)

Arrangements for makeup work are announced by individual instructors.

Grades and Records (SMLR-G)

GRADES AND RECORDS

Students in the School of Management and Labor Relations are graded in each course at the end of each semester as follows:

Grade	Definition	Numerical Equivalent
A	Outstanding	4.0
B+		3.5
B	Good	3.0
C+		2.5
C	Satisfactory	2.0
F	Failing	0.0

All students must complete their degree courses with a grade of C or better. Graduate students may count up to two grades of C or C+ toward their degree, but they must earn at least a B in all other courses.

A grade of F is assigned to students who fail to earn credit in a course they completed and to students who do not complete a course from which they have not officially withdrawn. In addition, the School of Management and Labor Relations uses the following grade symbols:

IN (Incomplete). May be assigned at the discretion of a **graduate** instructor who believes that an extension of time is warranted for a student whose work is incomplete at the end of the semester. Within any period agreed to by the instructor and the student, incomplete work may be made up, and a change of grade may be authorized by the instructor. This makeup period may not extend for more than two semesters beyond the original course registration (excluding Summer Session) without permission of the director of the student's graduate program. Incompletes generated in a Summer Session must be completed by the end of the following Summer Session. Programs may establish shorter time limits. Students with two or more incompletes are not permitted to register for additional courses until one semester after they have completed the incompletes.

F(T) (Temporary F). May be assigned at the discretion of an **undergraduate** instructor who believes that an extension of time is warranted for a student whose work is incomplete at the end of the semester.

S/U (Satisfactory/Unsatisfactory). For 700-level courses of research carrying credit or in regular courses taken "not for credit" (N prefix).

W (Withdrawal). Officially withdrew from a course after the add/drop registration period.

Credit Prefixes

Credit Prefixes

The number of credits appearing on course records and registration cards may be preceded by a letter prefix as follows:

E. Course excluded from credit toward a degree; all course requirements must be completed and a regular grade is assigned.

G. A 300- or 400-level undergraduate course for which credit toward the graduate degree sought has been approved.

N. Course taken "not for credit." The final examination is not required. A final grade of S (satisfactory) or U (unsatisfactory) is assigned. Graduate students registering for undergraduate courses are subject to the credit prefix rules of the undergraduate division offering the course.

Grades and Records (SMLR-G)

Transcripts

Transcripts

The Rutgers University Transcript and Verification Request Application allows all current and former Rutgers students to submit requests for official transcripts, verifications of enrollment, or semester grade reports online.

The documents may be picked up in person at one of the Offices of the Registrar or mailed to the address specified by the requestor.

Please allow 7-10 business days for delivery by mail, or five business days if you pick up your transcript, verification of enrollment, or semester grade report in person.

Grades and Records (SMLR-G)

Student Identification Cards

Student Identification Cards

The RU ID card is the official Rutgers University photo ID card. It enables students to check out library books, use recreation centers on the campuses, and access meal plan or RU Express debit services. It also functions as a general campus ID.

In order to receive an RU ID card, a student already must be registered for classes and present a valid form of identification (e.g., driver's license, passport). There is no charge to new students for the RU ID card.

For the most up-to-date information about Rutgers student ID cards, visit RU Student IDs.

Academic Standing (SMLR-G)

ACADEMIC STANDING

Student Review

Student Review

Student academic progress is monitored regularly by the program directors.

- **Graduate students.** Graduate students are expected to earn grades of B or better in their coursework. Students whose cumulative grade-point average is below 3.0 or those who have received more than two grades below B are viewed as not making satisfactory academic progress. As a result, these students are required to meet with their graduate program directors. No more than 6 credits bearing grades of C or C+ may be used in meeting the requirements for a master's or a doctoral degree. Faculty members in a position to comment on the student's performance and progress may be asked to do so by the graduate program director or a designate. Any review performed will not be limited by the student's choice of faculty.
- **Undergraduate students.** Undergraduate majors and minors are expected to earn grades of C or better in their coursework. Students whose cumulative grade-point average is below 2.0 are viewed as not making satisfactory academic progress. As a result, these students are required to meet with the undergraduate program directors.

Termination of Studies

Termination of Studies

Students may be required to terminate their studies and withdraw from the School of Management and Labor Relations if they fail to maintain satisfactory academic or professional standards in any phase of their programs. In addition, each student must comply with any conditions imposed at the time of admission, or the student will not be allowed to reregister.

When such issues occur, the program notifies the student in writing of the program's concern about the student's performance. Such a warning specifies the source of the concern, the applicable rules, and the proposed action. Warnings specify when and on what basis a recommendation for academic dismissal will be considered by the faculty.

Due Process

Due Process

Students are entitled to fairness in the way their academic performances are assessed. Each program has a statement that spells out how a student's academic progress is monitored and how examinations are conducted and graded. The School of Management and Labor Relations provides students with an opportunity to pursue their appeal beyond the program level (see Student Academic Appeals).

All students in the School of Management and Labor Relations are entitled to expect that regularly scheduled examinations will be graded and grades announced within two weeks of completion of those examinations by the student. If a student fails an examination, they are entitled to an explanation of the reasons for that decision. Student progress is monitored at the end of each semester.

Academic Standing (SMLR-G)

Student Academic Appeals

Student Academic Appeals

Students wishing to file a complaint about a course grade or a grade received for a particular piece of work in a course should first attempt to settle the matter through discussion with the instructor. If the two parties cannot resolve the issue at that level, the student may specify in writing the basis for the complaint and request a review by the director of the program offering the course.

For information about the process for challenging a grade, consult the School of Management and Labor Relations website. The process and timeline is outlined in this document.

Academic Standing (SMLR-G)

Holds

Holds

The privilege of registration and advance registration are barred to students who have outstanding obligations to the university. Obligations may take the form of unpaid monies, unreturned or damaged books and equipment, parking fines, other charges for which a student may become legally indebted to the university, and failure to comply with disciplinary sanctions or administrative actions.

University departments and offices may place "holds" on registration for any students with an outstanding obligation.

Academic Standing (SMLR-G)

Application for Conferral of the Degree

Application for Conferral of the Degree

The candidate must file a diploma application before posted deadlines in order to receive the degree at commencement.

Academic Standing (SMLR-G)

Graduation

Graduation

All students who anticipate finishing degree requirements within the coming year must apply online for graduation by completing their respective application. When students enter their final semester, candidates who expect to receive faculty recommendations for conferral of the degree are required to adhere to the following procedures:

1. Confirm that all academic requirements are being completed. If a student is unable to do so by the deadline date, both forms listed below must be refiled for a later-dated diploma.
2. Ensure that related fees and any outstanding debts to the university are paid.
3. Submit the completed candidacy application form by the announced deadline, normally in early January, May, or October.
4. Submit a diploma application form by the announced deadline, normally January 4, March 15, or October 1.

Students are urged to submit the appropriate online forms in advance of the deadlines, if possible. If the diploma application form is filed after the deadline, the school cannot confer the degree as scheduled, and graduation will be delayed. Any student who misses the deadline must refile this form in order to be graduated.

It is the responsibility of the student to complete all requirements for graduation by the scheduled dates. Each student should consult with the program director of his or her program and with the office of the program director with respect to the completion of the requirements for graduation.

Conferral of degrees and diplomas occurs once a year at the annual spring commencement. Students who file the applications and complete all other requirements for the degree by the announced October or January date will get a diploma dated for the respective month. They will not receive the actual diploma, however, until the following spring. Any student who needs evidence that he or she has earned the degree may submit a written request for a temporary certificate of completion to the university registrar at the Administrative Services Building on the Busch Campus. This request form is available at the dean's office.

At the time of commencement, degrees may be conferred in absentia only if the prospective candidate has notified the university registrar that he or she cannot attend commencement exercises. The diploma will be withheld from any student who is under financial obligation to the university.

Diplomas will be mailed approximately two months after graduation to all graduates at the permanent address listed in our database (the university is not responsible for any loss or damage that may occur in transit via U.S. Postal Service for mailed diplomas). All graduates who prefer to pick up their diploma in person at the Busch Campus registrar's office must complete the Diploma Mailing Request Form and check "Pick-Up" to avoid having their diploma mailed.

Diplomas and official transcripts will be withheld from all students whose financial accounts and debts (including tuition, housing, parking, and library) are not cleared.

Academic Standing (SMLR-G)

Time Limits for Graduation Degrees

Time Limits for Graduate Degrees

All students are urged to consider carefully the educational and economic benefits of completing their programs as quickly as possible. The normal maximum time limit for a master's degree is three years for full-time students and six years for part-time students. Soon after being admitted to graduate study, each student should consult with a faculty adviser and work out a reasonable timetable for meeting the requirements. Any student requiring an extension beyond the normal time limits should petition the dean of the School of Management and Labor Relations for the master of human resource management (M.H.R.M.) and the master of labor and employment relations (M.L.E.R.) programs, and the School of Graduate Studies for the doctoral program in industrial relations and human resources (I.R.H.R.). Normally, the schools may grant such a request if the evidence shows the petition is justified, the student is in good standing, and the faculty in charge of the student's program certifies that satisfactory progress is being made.

Master's Degree Programs (SMLR-G)

MASTER'S DEGREE PROGRAMS

The School of Management and Labor Relations (SMLR) offers a master of labor and employment relations (M.L.E.R.) degree and a master of human resource management (M.H.R.M.) degree. SMLR also offers programs that allow students to complete a bachelor's degree and a master's degree in five years of full-time study. Students enrolled in the industrial relations and human resources (I.R.H.R.) doctoral program are eligible to receive the master of science degree.

Requirements (SMLR-G)

REQUIREMENTS

Candidates for the master of human resource management (M.H.R.M.) and the master of labor and employment relations (M.L.E.R.) degrees must satisfy all requirements of the School of Management and Labor Relations, as well as the particular requirements of their chosen program.

The minimum requirement to earn the master's degree is set out by each degree program. Any student seeking a master's degree must maintain continuous registration in the school from the time of admission to graduate study until the degree is conferred.

In fulfilling course requirements, students may select courses from a single program, or they can pick courses from several related programs if they have approval from the graduate program director. All programs of study are subject to review by the dean of the School of Management and Labor Relations.

Thesis and Nonthesis Options (SMLR-G)

THESIS AND NONTHESIS OPTIONS

Although the master in labor and employment relations (M.L.E.R.) and master in human resource management (M.H.R.M.) programs do not require a thesis, students may arrange with faculty members to choose a thesis option. This academic option is worth 6 credits. Students in the doctoral program in industrial relations and human resources (I.R.H.R.) program must complete an empirical research project and pass a qualifying examination in order to receive the master of science degree.

Submission of the Thesis (SMLR-G)

SUBMISSION OF THE THESIS

For a student whose program includes a thesis, that thesis must be approved by the professor in charge and accepted by the other members of the student's three-person committee. After the committee has accepted the thesis, the required copies must be filed with the School of Management and Labor Relations (M.H.R.M./M.L.E.R. degrees) or with the School of Graduate Studies (I.R.H.R. degree). The filing must take place within the announced deadlines for completion of degree requirements. In general, the School of Management and Labor Relations follows the School of Graduate Studies' guidelines for thesis policy.

Master's Program in Human Resource Management (M.H.R.M.) (SMLR-G)

MASTER'S PROGRAM IN HUMAN RESOURCE MANAGEMENT (M.H.R.M.)

David A. Ferio, Director

The master of human resource management (M.H.R.M.) degree program is highly rated, with graduates working in major corporate, government, and nonprofit organizations across the country. The program provides a broad foundation of theoretical knowledge and professional skills to a variety of people, including individuals planning or

pursuing careers as human resource (HR) staff representatives. The program also is useful for line managers who want to acquire knowledge about the development and management of people. The Rutgers M.H.R.M. program is the only STEM-designated Master's in Human Resource Management program in the country.

The student body is comprised of individuals from throughout the United States and the world. Students in the program represent a variety of undergraduate majors and work experiences. Courses typically meet once a week in the evening for less than three hours, making the program convenient for working adults. Students can attend on a full-time or part-time basis.

We also offer a unique track in the M.H.R.M. program, for those who qualify, focusing on HR Analytics--the understanding of data relative to HR practices and firm strategic success.

The office of the M.H.R.M. program is located in the School of Management and Labor Relations, Janice H. Levin Building, Rutgers, The State University of New Jersey, 94 Rockefeller Road, Piscataway, NJ 08854-8054. The telephone number is 848-445-0862, the fax number is 732-445-2830, and the email address is ferio@smlr.rutgers.edu.

M.H.R.M Program Structure and Degree Requirements (SMLR-G)

M.H.R.M. PROGRAM STRUCTURE AND DEGREE REQUIREMENTS

The master of human resource management (M.H.R.M.) degree is designed so that students will learn how organizations:

1. Design HRM systems to build a competent, committed workforce and a flexible, integrated, cost-effective organization;
2. Assess the effects of HRM policies and systems on organizational performance;
3. Apply financial analysis, research methods, and software to the HRM decision process; and
4. Combine work design, measurement, staffing, development, rewards, and governance systems into an integrated HRM system strategically linked to the business plan.

To accomplish these goals, students must complete:

- 12 credits of required courses in HR strategy
- 6 credits of required courses in HR decision-making
- 9 credits of required courses in HR functional areas
- 9 credits of required courses in HR context areas
- 12 credits of elective coursework

Altogether, students acquire a total of 48 credits to earn the degree.

Required Courses (12 courses, 36 credits)

I. HR Strategy

38:533:580 HR Strategy I: Introduction (3)

38:533:590 HR Strategy II: Business and Competitive Strategy (3)

38:533:680 HR Strategy III: Measurement Issues (3)

38:533:690 HR Strategy IV: Designing & Implementing Human Capital Strategies (3)

II. HR Decision Making

38:533:540 HR Decision-Making: Financial Decisions (3)

38:533:542 HR Decision-Making: Data-Based Decisions (3)

III. HR Functional Areas

38:533:533 Managing Workforce Flow (3)

38:533:634 Developing Human Capital (3)

38:533:635 Managing Rewards Systems I (3)

IV. HR Context Areas

38:533:565 Economics and Demographics of Labor Markets (3)

38:533:566 Employment Law (3)

38:533:665 Managing the Global Workforce (3)

Electives (4 courses, 12 credits)

Analytics I

Corporate Governance

Employee Benefits

Ethics and Corporate Social Responsibility

Analytics II

HR Consulting Skills

HRM and Health Administration

Diversity, Equity, and Inclusion for HR Professionals

Organizational Behavior

Strategic Organizational Change

Master of Labor and Employment Relations (MLER) courses can also be taken as electives.

M.H.R.M Courses (SMLR-G)

M.H.R.M. COURSES

HR Strategy

38:533:580 ***HR Strategy I: Introduction (3)***
This course sets the stage for the master's in human resource management (M.H.R.M.) curriculum and begins to socialize students into the program. A key objective is to introduce students to a strategic view of HR, which includes adopting a systems perspective and attending to multiple stakeholders. Emphasizes the importance of understanding the many forces that shape a firm's approach to managing human resource management (HRM) and the positioning of the HR function as a strategic partner, putting the focus on the intersection of HRM, business policy, and competitive strategy.

38:533:590 ***HR Strategy II: Business and Competitive Strategy (3)***
This is a complete course addressing strategy. The primary focus will be to provide students with a deep understanding of strategic management. Topics to be covered include competitor analysis, strategy formulation (at the business, corporate, and international levels), acquisitions and restructurings, cooperative strategies, corporate responsibility, and entrepreneurship.
Prerequisite: 38:533:580.

38:533:680 ***HR Strategy III: Measurement Issues (3)***
HR Strategy III is premised on the assumption that in an economy dominated by intangible assets, conventional accounting systems do not provide the kinds of information required to effectively measure or manage the HR function or the workforce. Developing effective measurement systems requires that managers understand how the workforce drives strategy execution, that they identify and collect the right measures of workforce success, and finally, that managers have the access, capability, and motivation to use these data to communicate strategic intent and monitor progress.
Prerequisites: 38:533:540 and 590.

38:533:690 ***HR Strategy IV: Designing & Implementing Human Capital Strategies (3)***
In HR Strategy IV, students will apply what they have learned throughout the program in a global context, using a systematic and comprehensive approach to HR strategy formulation and execution. As a capstone course, assignments will emphasize student involvement and problem-solving.
Prerequisites: 38:533:680 and 36 credits.

HR Decision-Making

38:533:540 ***HR Decision-Making: Financial Decisions (3)***
Prepares students to assess the business implications of basic financial statements (income statement, balance sheet, cash flow statement) and to participate in the financial analysis of business strategy. Particular attention is paid to topics where finance and HR intersect (cost-benefit analysis of HR initiatives, selection of financial measures to serve as bonus drivers, alternative models for valuing employee stock options, and financial and accounting aspects of pensions and other postretirement benefits).

38:533:542 ***HR Decision-Making: Data-Based Decisions (3)***
This course addresses research design methodology and basic statistics through regression analysis.

HR Functional Areas

38:533:533 ***Managing Workforce Flow (3)***
Acquisition and deployment of human assets by the organization. Traditional plus outsourcing.

38:533:634 ***Developing Human Capital (3)***
Assessing and developing the organization's human assets via training and development. Coverage includes both micro issues and macro issues, including the learning organization.

38:533:635 ***Managing Rewards Systems (3)***
Focuses almost entirely on base pay systems and individual performance management.
Prerequisite: 38:533:542.

HR Context Areas

38:533:565 ***Economics and Demographics of Labor Markets (3)***
Focuses on the operation of the labor market, and how economic forces and demographic trends affect a firm, its workforce, and the employment relationship. Topics include economic reasoning and current research on labor demand, labor supply, demographic trends and projections, education and training, unions, discrimination, and unemployment.

38:533:566 ***Employment Law (3)***
Studies principles of law covering the employment relationship. The focus is on understanding the legal process as it relates to employment issues and developing abilities to research legal issues.

38:533:665 ***Managing the Global Workforce (3)***
Introduces students to the impact of global markets on the management of human capital at home and abroad. Discusses the expansion of international trade and the growth of U.S. multinational operations abroad.

Electives

38:533:550 ***Analytics I: Human Resource Metrics and Analytics (3)***
This course introduces students to the concepts of human resource metrics, analytics, and evidence-based management. Students learn to reexamine the scope of human resource management through a quantitative lens. Topics include costing and predicting turnover, managing diversity, valuing engagement and performance, and designing more effective selection and compensation systems.
Previously listed as 38:533:616
Prerequisite: 38:533:542 Data-Based Decisions (grade of B+ or better)

38:533:601 ***Independent Study (BA)***
Exploration of specific subjects in human resource management under the direction of a faculty member.
Prerequisite: The agreement of a faculty member to direct the independent study.

38:533:610,612,613,614,615,616,617,618,619 ***Selected Problems in Human Resource Management (3 each)***
The topics and course numbers for Selected Problems in Human Resource Management vary each semester. Topics that have been offered include**:**

Discrimination, ADA, Legal System, Global Issues, and:

Employee Benefits
This area is one of major importance to HR executives. This course focuses on the critical benefits issues that face modern organizations, particularly in the areas of pensions and health care. The impact of benefits costs on operations and decisions to outsource and move operations overseas will be covered. Benefits as a strategic issue for corporations.

Internal Consulting Skills
Development of skill, knowledge, and practice centering on effective internal consulting practices.

Managing Diversity
Understanding the topics and issues related to workforce diversity in gaining competitive advantage.

Organizational Learning
Elements of the learning organization and issues related to knowledge management for competitive advantage.

38:533:636 ***Corporate Governance (3)***
Options in designing work. Focus on teaming, but covers different methods of assigning and completing tasks. Covers governance issues in nonorganized and organized settings. Emphasis on employee-involvement issues and the implications for HRM.

38:533:650 ***Analytics II: Applications of Human Resource Analytics: Tools and Techniques (3)***
This course focuses on identifying strategic HRM problems and creating data-driven approaches to find solutions. Students focus on designing and using surveys, collecting HR Metrics and data, as well as developing skills necessary to inform a broad audience about evidence-based solutions. Topics include problem identification, data acquisition, data analysis, identifying best practices, project management, research ethics, and communicating research findings to a managerial audience.
Prerequisite: 38:533:550 Analytics I (grade of B or better).

38:533:685 ***Strategic Organizational Change (3)***
Focuses on the role of HR in supporting organizational change. Considers major types of change and the impact on organization, group, and individuals. Appropriate responses are explored.

38:533:703 ***Master's Thesis (3)***

38:578:___ ***Master in Labor and Employment Relations Courses (3)***

22:620:___ ***Selected M.B.A. Courses (3)***

HR Analytics Course Track (SMLR-G)

HR Analytics Course Track

Data analytics has become a centerpiece within the HR leadership agenda. The HR Analytics concentration provides knowledge and skill in analyzing data to interpret trends and predict outcomes related to the HR practices driving workforce success.

The following courses comprise the HR Analytics concentration. A grade of B+ or better in the Data-Based Decisions MHRM graduate course is needed as a registration prerequisite for these electives.

38:533:550 ***Analytics I: Human Resource Metrics and Analytics (3-credit elective course)***
This course introduces students to the concepts of human resource metrics, analytics, and evidence-based management. Students learn to reexamine the scope of human resource management through a quantitative lens. Topics include costing and predicting turnover, managing diversity, valuing engagement and performance, and designing more effective selection and compensation systems.
Prerequisite: 38:533:542 Data-Based Decisions (grade of B+ or better)

38:533:650 ***Analytics II: Applications of Human Resource Analytics: Tools and Techniques (3-credit elective course)***
This course focuses on identifying strategic HRM problems and creating data-driven approaches to find solutions. Students focus on designing and using surveys, collecting HR Metrics and data, as well as developing skills necessary to inform a broad audience about evidence-based solutions. Topics include problem identification, data acquisition, data analysis, identifying best practices, project management, research ethics, and communicating research findings to a managerial audience.
Prerequisite: 38:533:550 Analytics I (grade of B or better)

Graduate Certificate in Strategic Human Resource Management (SMLR-G)

GRADUATE CERTIFICATE IN STRATEGIC HUMAN RESOURCE MANAGEMENT

The Rutgers Graduate Certificate in Strategic HRM offers a flexible way for individuals seeking to acquire new knowledge to help their organizations respond to current workforce challenges, and/or propel their HR career forward through an exciting and challenging learning environment.

Building upon cutting-edge research and practice, the program allows students to earn a formal credential (a non-degree graduate certificate) for completing the required four (4) courses with the potential to apply full credit to the Rutgers M.H.R.M. degree program.

Individuals working in HR positions who may have transferred from other areas within their organization may find the program beneficial to obtain formal training in HR coursework to build their competencies. Graduate students seeking master's degrees in other areas may also find that additional coursework in HR is valuable if they seek the flexibility to apply their master's training within the HR function of an organization, within HR consulting, or in a work role where they will manage employees.

Please note that transfer credits may not be applied toward the certificate. Also note this certificate program is not a degree program offering and therefore may not be suitable for all candidates.

For more information about the Graduate Certificate in Strategic HRM, please email Dave Ferio, Director, Graduate

Program in Human Resource Management at ferio@smlr.rutgers.edu.

Program Structure

To earn the Graduate Certificate in Strategic HRM, students must complete three (3) required courses and one (1) elective course for a total of 12 credit hours. Students may combine in-person and online courses to complete the certificate. The entire certificate is designed to be completed in as little as two semesters.

Three required courses:

- 38:533:580 HR Strategy I
- 38:533:590 HR Strategy II
- 38:533:566 Employment Law *

One elective course:

Choose one from the list below.

- HR Decision-Making: Financial Decisions
- Managing Workforce Flow
- Developing Human Capital
- Managing the Global Workforce
- Selected Problems: Benefits **
- Any of the following courses on diversity and inclusion: Diversity, Equity, and Inclusion for HR Professionals (pending approval); The Inclusive Workplace; or Identity and Discrimination at Work and in the U.S. Labor Market

* MLER students who have already taken Employment Law as an undergraduate student can substitute a second elective course from the list.
** These courses are offered once per year; all other courses are offered every semester.

Online Professional Master's in Human Resource Management (M.H.R.M.) (SMLR-G)

ONLINE PROFESSIONAL MASTER'S IN HUMAN RESOURCE MANAGEMENT (M.H.R.M.)

Hadi El-Farr, Director

The online professional master's in human resource management (M.H.R.M.) program is designed for human resource professionals and managers/supervisors with 4+ years of experience who look to advance their careers to senior HR or management positions. GRE/GMAT scores are waived as a requirement due to the experience level of the students in the program.

The program offers in-depth human resource management knowledge and skills that will distinguish participants from their peers and enable them to communicate effectively with other executives on a regional, national, and global scale. Graduates of the Rutgers M.H.R.M. program are HR subject-matter experts with high ability to connect and apply the HR function and its practices to organizational strategy within their organizations.

The online professional M.H.R.M. program is delivered 100 percent online and is suitable for working professionals enrolling in the program part time as well as those who wish to pursue the degree as a full-time student. The program offers convenient access to attain a highly regarded advanced graduate degree with flexibility in location and timing.

The program can be completed by a full-time student in as few as 18 months. There is no minimum course load per semester for part-time students. The program offers enrollment in the fall, spring, and summer semesters, offering flexibility in course scheduling for all students.

The Office of the Online Professional M.H.R.M. program is located in the
School of Management and Labor Relations, Janice H. Levin Building,
Rutgers, The State University of New Jersey,
94 Rockafeller Road,
Piscataway, NJ 08854-8054
Telephone: 848-445-9432
Fax: 732-445-2830
Email: he89@smlr.rutgers.edu

Online M.H.R.M Program Structure and Degree Requirements (SMLR-G)

ONLINE M.H.R.M PROGRAM STRUCTURE AND DEGREE REQUIREMENTS

The online professional master's degree in human resource management curriculum is comprehensive and designed to meet the needs of HR professionals to advance their career to top human resources and management positions. The curriculum covers eight core courses, a capstone course, and three electives. A total of 36 credits is needed to attain the degree.

Core Courses (8 courses, 24 credits)

38:533:704 Linking HR to Business Strategy

38:533:665 Managing the Global Workforce

38:533:635 Managing Rewards Systems

38:533:533 Managing Workforce Flow

38:533:705 Workforce Analytics and HR Data-Based Decisions

38:533:634 Developing Human Capital

38:533:540 HR Decision-Making: Financial Decisions

38:533:566 Employment Law

Capstone Project (1 course, 3 credits)

Capstone Project

Elective Courses (select 3 courses, 9 credits)

38:533:565 Economics and Demographics of Labor Markets

38:533:611 HR and Health Administration

38:578:543 Organizational Leadership and Change Management

38:533:617 Organizational Behavior

38:578:510 The Inclusive Workplace

38:578:504 Leadership in Work Organizations

Online M.H.R.M. Courses (SMLR-G)

ONLINE M.H.R.M. COURSES

38:533:533 ***Managing Workforce Flow (3)***
This course addresses how organizations acquire and deploy human assets, both internally and through outsourcing. Issues discussed include recruiting, selection, turnover, socialization, retention, and downsizing.

38:533:540 ***HR Decision-Making: Financial Decisions (3)***
The course prepares students to assess the business implications of basic financial statements (income statement, balance sheet, cash flow statement) and to participate in the financial analysis of business strategy. Particular attention is paid to topics where finance and HR intersect (cost-benefit analysis of HR initiatives, selection of financial measures to serve as bonus drivers, alternative models for valuing employee stock options, financial and accounting aspects of pensions and other post-retirement benefits).

38:533:550 ***Analytics I: HR Metrics & Analytics (3)***
This course introduces students to the fundamental logic, metrics, and methods necessary to conduct HR analytics. Organizations are increasingly relying on HR Analytics to improve decision-making in human resources, and ultimately contribute more effectively to organizational effectiveness. HR practitioners need to be skilled in understanding (1) the types of problems that can be addressed using HR analytics, (2) how to analyze and interpret human resource data, (3) how to evaluate the validity of those analyses, and (4) how to communicate analytical and statistical results in a way to influence decisions. The course is designed to teach basic HR Analytics skills and critical thinking skills concerning HR decision-making. The course will involve data analysis and statistics, but its emphasis is on application and real-world problem-solving.

38:533:565 ***Economics and Demographics of Labor Markets (3)***
This course focuses on the operation of the labor market, and how economic forces and demographic trends affect a firm, its workforce, and the employment relationship. Topics will include economic reasoning and current research on labor demand, labor supply, demographic trends and projections, education and training, unions, discrimination, and unemployment.

38:533:566 ***Employment Law (3)***
This course covers principles of law associated with the employment relationship. The focus is on understanding the legal process as it relates to employment issues, and developing the ability to research legal issues effectively.

38:533:611 ***HRM and Health Care Administration (3)***
Human Resources Management in Healthcare will introduce students to human resources practice in the nation's largest and fastest-growing industry. Initially, students will be introduced to healthcare operations. The course will then explore HRM functions (staffing, DEI, compensation and benefits, employee relations, and labor relations) as they impact the performance of healthcare entities. The course will also examine the implications of the unique regulatory environment governing healthcare workers.

38:533:617 ***Organizational Behavior (3)***
This course aims to address major topics in organizational behavior. Organizational behavior is an interdisciplinary field that strives to explain and predict how individuals and groups interpret events, react, and behave in organizations. The course looks at the role of organizational systems, structures, and processes in shaping behavior.

38:533:634 ***Developing Human Capital (3)***
Students in this course will learn how to assess and develop an organization's human assets through training and development. The course examines both micro issues and macro issues, including the transformative nature of the "learning organization." It will enable students to assess training needs and design effective training programs to cater to the organizational strategy and the learning needs of employees.

38:533:635 ***Managing Rewards Systems (3)***
This course focuses primarily on base pay systems, incentive pay systems, and employee benefits programs. It also provides in-depth coverage of sales, executive, and advanced individual performance pay issues.

38:533:648 ***Diversity, Equity, and Inclusion (DEI) for HR Professionals (3)***
This course provides a foundation for understanding diversity and inclusion in the workplace and the implications of working in diverse organizational environments in the United States. Specifically, this course is designed to help students understand why diversity, equity, and inclusion are essential to organizations using a human resources lens. Further, students will consider how HR partners with the business to create strategies and execute various DEI initiatives (e.g., recruiting, interviewing, mentoring, managing internal talent, and training and developing employees).

38:533:650 ***Analytics II: Applications of HR Analytics Tools & Techniques (3)***
This course develops students' ability to strategically apply analytics to address HR-related challenges and improve organizational performance. By emphasizing data-informed decision-making, the course ensures students build the confidence to lead data-driven HR initiatives in professional environments. The curriculum covers essential analytical skills and practical knowledge, guiding students through the process of implementing HR analytics as part of a structured project planning approach. The course explores the three levels of analytics: descriptive (analyzing past performance), predictive (forecasting future trends), and prescriptive (recommending data-based actions).

38:533:665 ***Managing the Global Workforce (3)***
The aim of this course is to provide students with a robust understanding of international HR practices and issues. In addition, the course targets building awareness and appreciation of the international business context and how HR can contribute as a strategic partner to enhance multinationals' performance and competitive advantage.

38:533:685 ***Strategic Organizational Change (3)***
The course focuses on strategic HR practices and organizational development tools and techniques to provide a methodology to improve a company's organizational capability, competitive advantage, and quality of work life. Using lectures, case studies, exercises, and two projects, students will learn to plan, execute, and evaluate organizational change programs.

38:533:704 ***Linking HR to Business Strategy (3)***
This course aims to link HR to the organizational strategy, which includes adopting a systems perspective and attending to multiple stakeholders. This course emphasizes the importance of understanding the many forces that shape a firm's approach to managing HRM and the positioning of the HR function as a strategic partner, putting the focus on the intersection of HRM, business policy, and competitive strategy.

38:533:705 ***Workforce Analytics and Data-Based Decisions (3)***
This course addresses research design methodology and addresses basic statistics through regression analysis. It will enable students to compile and analyze data that can be used in developing, implementing, and measuring the outcome of HR strategy.

38:533:706 ***Capstone Project (3)***
This course will provide students with the opportunity to apply what they have learned throughout the graduate program. By the end of the course, the student will finalize a project that addresses an HR challenge within their organization or a company of their interest.

38:578:543 ***Organizational Leadership and Change Management (3)***
This course focuses on leadership theories and their application in work organizations. In addition, this course addresses the process of change management, including the rationale for change, why change succeeds or fails, effective leadership of change, and ethical concerns.

38:578:504 ***Leadership in Work Organizations (3)***
Leadership theory and its application to work organizations, including unions, nonprofits, and businesses. Leadership of small groups and large organizations; leadership diversity and development.

38:578:505 ***Negotiation (3)***
Negotiation strategy and tactics including positional, interest-based, and other theoretical approaches; rights, power, leverage, concessions, and commitment; applications include business and labor contexts; negotiation skill development.

38:578:510 ***The Inclusive Workplace (3)***
This course addresses how to achieve an inclusive workplace; issues related to race, ethnicity, age, gender, religion, sexual orientation, disability, and other aspects of diversity in work organizations.

Master's Program in Labor and Employment Relations (M.L.E.R.) (SMLR-G)

MASTER'S PROGRAM IN LABOR AND EMPLOYMENT RELATIONS (M.L.E.R.)

Francis Ryan, Director

The master's program in labor and employment relations (M.L.E.R.) combines professional training with intellectual exploration to produce graduates who are thoughtful professionals, informed leaders, and/or researchers grounded in contemporary reality. Our graduates go on to work in the public policy arena, for labor organizations, for public sector management, and for corporations. The program is also appropriate for those already working in human resources or labor relations who wish to examine contemporary problems and their solutions. The eight course requirements, along with the electives offered, provide students with a broad, multidisciplinary education in labor and employment relations.

The program is structured to be convenient for both traditional and non-traditional students. It accepts students on a full-time or part-time basis, and the course schedule is flexible enough to accommodate people who hold full- or part-time jobs. The M.L.E.R. program is a flexible program that can be tailored to meet each individual's academic and professional goals. There are no language or residency requirements. The degree can be completed partially or entirely online over a longer period of time.

Contacting Us:
The M.L.E.R. office is located in the School of Management and Labor Relations.

Janice H. Levin Building
Rutgers, The State University of New Jersey
94 Rockafeller Road, Piscataway, NJ 08854-8054
Phone: 848-932-0303
Email: fr156@smlr.rutgers.edu

M.L.E.R. Program Structure and Degree Requirements (SMLR-G)

M.L.E.R. PROGRAM STRUCTURE AND DEGREE REQUIREMENTS

To earn the master of labor and employment relations (M.L.E.R.) degree, students are required to successfully complete 39 credits of coursework. Of these 39 credits, 24 credits must be taken in required courses in labor and employment relations and 15 credits in elective courses.

The following are required courses (6 credits):

38:578:500 Introductory Seminar in Labor and Employment Relations (3)

38:578:560 Collective Bargaining & Worker Representation (3)

Students also must take at least one course from each of the following core areas (18 credits):

Law

38:578:550 Labor Law

38:578:521 Immigration Law

38:533:566 Employment Law

Workforce Diversity

38:578:510 The Inclusive Workplace

38:578:526 Immigration, Public Policy, and Worker Rights

38:578:541 Women and Work

38:578:551 Identity and Discrimination at Work and in the U.S. Labor Market

Institutional Variety

38:578:530 Globalization, Corporate Restructuring, and Employment

38:578:562 Global Employment Relations Today

38:578:612 Labor/Employment History

Economic Policy

38:533:565 Economics and Demographics of Labor Markets

38:578:527 Economics and Public Policy in a Global Context

Finance

38:578:538 Financial Analysis and Corporate Governance

38:533:540 HR Decision Making: Financial Decisions

Research Methods

38:578:501 Research Methods in Labor and Employment Relations

38:578:613 Topics: Problem-Solving Tools and Analysis in Employment Relations

38:533:542 HR Decision Making: Data-Based Decisions

38:578:604 Creating and Administering Surveys

Other research methods courses at the graduate level may be approved by the director of the program as meeting this requirement.

In addition, students take 15 credits of electives to reach the 39-credit total. Six credits of these must be from courses offered by the Department of Labor Studies and Employment Relations. With the permission of the graduate program director, students may fulfill part of their credit requirements by taking courses in human resource management or another graduate program at the university. In addition, students may apply a master's thesis, an internship in labor and employment relations, or independent study to fulfill the elective requirements.

Graduate Certificate Programs (SMLR-G)

GRADUATE CERTIFICATE PROGRAMS

The School of Management and Labor Relations offers individuals with bachelor's degrees or graduate students enrolled in other programs at the university the chance to obtain graduate certificates. These involve a series of regular graduate courses. Credits can later be transferred to one of the master's programs offered by the School of Management and Labor Relations. The graduate certificate programs enable students to both develop expertise in labor and employment relations and signal their qualifications to prospective employers.

A prospective labor or employment relations professional can earn a graduate certification by taking just four courses (graduates of the master's in labor and employment relations program may count courses they have already taken toward this certificate, as long as they complete at least two additional courses).

Students can earn the certificate either with a mix of in-person and online courses or with online courses only. Our online classes are highly interactive, involve serious examination of important issues based on recent scholarship, and take place over the course of a semester. All classes include assignments designed to enhance skills and broaden perspectives. Students must earn a grade of B or better for a course to count toward the certificate.

More information about graduate certificate programs can be found on the SMLR website.

Certificate in Conflict Resolution and Negotiation

Certificate in Conflict Resolution and Negotiation

The Conflict Resolution and Negotiation graduate certificate allows students to better understand the sources of conflict in all organizations, learn mediation techniques to reduce differences between individuals or groups, facilitate better group processes, use negotiation techniques to resolve and reduce conflict, and understand how both nonunion and union workplaces deal with individuals who have grievances.

The conflict resolution and negotiation certificate requires successful completion, with a B or better, of four 3-credit graduate courses. If students later decide to continue on to the full Master of Labor and Employment Relations program, all these courses would count toward that degree.

Students can earn the certificate either with a mix of in-person and online courses or with online courses only. Our online courses are highly interactive, involve serious examination of important issues based on recent scholarship, and take place over the course of a semester. All classes include assignments designed to enhance skills and broaden perspectives.

There is one required course:

38:578:515 Conflict and Conflict Resolution in the Workplace (SMLR)

AND three electives selected from courses in the master of labor and employment relations (M.L.E.R.) program or other Rutgers partner programs:

38:578:569 Mediation Processes and Techniques (SMLR)
38:578:511 Emotional Intelligence in the Workplace
38:578:508 Group Processes & Team Dynamics
38:578:575 Employment Arbitration Today (SMLR)
38:578:505 Negotiation (SMLR)
38:578:560 Collective Bargaining (SMLR)
38:578:610 Inter-Personal Conflict Resolution (SMLR)
17:194:518 Persuasion and Advocacy (SC&I*)
34:833:572 Negotiation, Law, and Policy: Managing Conflict in Public Contexts (EJBSPP**)
22:620:617 Negotiations (RBS****)
Other related and approved courses or independent study

* School of Communication and Information
** Edward J. Bloustein School of Planning and Public Policy
*** School of Arts and Sciences-New Brunswick
**** Rutgers Business School-Newark and New Brunswick

For additional information about the certificate program, visit the website.

Graduate Certificate Programs (SMLR-G)

Diversity and Inclusion in the Workplace

Certificate in Diversity and Inclusion in the Workplace

The Diversity and Inclusion in the Workplace Certificate Program is designed to give students the tools to help organizations successfully navigate the challenges and opportunities associated with an increasingly diverse workforce.

This certificate program requires successful completion, with a B or better, of four 3-credit graduate courses. If students later decide to continue on to the full Master of Labor and Employment Relations program, all these courses would count toward that degree.

Students can earn the certificate either with a mix of in-person and online courses or with online courses only. Our online courses are highly interactive, involve serious examination of important issues based on recent scholarship, and take place over the course of a semester. All classes include assignments designed to enhance skills and broaden perspectives.

Required courses include:

Employment law:

- 38:533:566 Employment Law, *OR*
- 37:575:521 Immigration Law

And one of three broad classes about diversity:

- 38:578:510 The Inclusive Workplace
- 38:578:551 Identity and Discrimination at Work and in the U.S. Labor Market
- 38:533:648 Diversity, Equity, and Inclusion for the HR Professional

And any two classes from the following:

- 38:578:541 Women and Work
- 38:578:526 Immigration, Public Policy, and Worker Rights
- 38:578:511 Emotional Intelligence in the Workplace
- Topics courses on Asian-American, Black, Latino or other groups of workers (38:578:610 or 611 when on DEI topics)
- Independent study related to diversity and inclusion
- Topics or other classes related to the content of this certificate with the approval of the program director

Graduate Students in Rutgers School of Public Affairs and Administration (SPAA) may count the following two courses from their program as electives:

- 20:834:523 Human Resource Management, and
- 20:834:507 Leadership and Diversity

For more information about the graduate certificate, visit the website.

Graduate Certificate Programs (SMLR-G)

Certificate in Labor and Employment Relations

Certificate in Labor and Employment Relations

This certificate program is one that is designed uniquely for the student – for the individual's interests, current situation, and future goals, from the broad subject matter of Labor and Employment Relations. Students can select any four (4) 3-credit graduate-level MLER courses to make up the Labor and Employment Relations certificate. Students must earn a B or better for a course to be applied toward the certificate. Certificate students have the potential to transfer full credit to the Rutgers MLER degree program after being admitted to the master's program as a matriculated student. Please reach out to **Ann Marie Fiorella-Mullen**, the MLER student advisor, to discuss your next steps if you wish to transfer to the MLER degree program.

Students can earn the certificate either with a mix of in-person and online courses or with online courses only. Our online courses are highly interactive, involve serious examination of important issues based on recent scholarship, and take place over the course of a semester. All classes include assignments designed to enhance skills and broaden perspectives.

Certificate in Leading Organizational Change

Certificate in Leading Organizational Change

Change is all around us at work, as organizations merge, restructure, change work groups and leadership. Yet at the same time, it seems like initiating the smallest needed change at work, even in organizations that represent workers, leads to internal conflict and resistance.

This certificate will help students consider how, as a future leader, to adapt to change, to facilitate change, and to help others do the same, while minimizing the strife change sometimes creates in the workplace. As with other SMLR graduate certificates, it requires successful completion, with a B or better, of four 3-credit graduate courses. If students later decide to continue on to the full Master of Labor and Employment Relations program, all these courses would count toward that degree.

Students can earn the certificate either with a mix of in-person and online courses or with online courses only. Our online courses are highly interactive, involve serious examination of important issues based on recent scholarship, and take place over the course of a semester. All classes include assignments designed to enhance skills and broaden perspectives.

Required Course

- 38:578:543 Organizational Leadership and Change Management (M.L.E.R.)

Elective Courses

Three additional elective courses are required. There are many choices, including:

- 38:578:504 Leadership in Work Organizations* (M.L.E.R.) *or* 38:533:613:01 Selected Problems-Leadership (M.H.R.M. program) *or* 17:194:540 Organizational Leadership (SC&I*)
- 38:578:503 Problem-Solving Tools at Work (M.L.E.R.) *or* 38:578:604 Creating and Administering Surveys (M.L.E.R.)
- 38:533:610 Selected Problems: HR Consulting (M.H.R.M.)
- 38:533:685 Strategic Organizational Change (M.H.R.M.)
- 38:587:530 Globalization and Corporate Restructuring (MLER)
- 17:194:559 Organizational Change & Communication (SC&I)
- 19:910:509 Community Organizing (SSW)
- 38:578:556 Organizational Design and Structure (M.L.E.R.)
- 38:578:510 The Inclusive Workplace (M.L.E.R.)
- 38:578:515 Conflict Resolution in the Workplace (M.L.E.R.)
- 38:578:505 Negotiation (M.L.E.R.)

- 38:624:508 Team and Group Process Facilitation (M.L.E.R.)
- 15:230:624 Leading for Instructional Equity (GSE)
- 15:230:604 Leading Educational Organizations (GSE)

SC&I: Rutgers School of Communication and Information
SSW: Rutgers School of Social Work
GSE: Graduate School of Education

For more information about the certificate program, visit the website.

Graduate Certificate Programs (SMLR-G)

Certificate in Public Sector Labor-Management Relations

Certificate in Public Sector Labor-Management Relations

This four-course certificate program helps students develop a broad perspective on public sector labor-management relations issues--involving teachers, Rutgers University employees, police officers, and other public employees. Students must earn a B or better for a course to be applied toward the certificate.

If students later decide to continue on to the full Master of Labor and Employment Relations program, all these courses would count toward that degree.

Students can earn the certificate either with a mix of in-person and online courses or with online courses only. Our online courses are highly interactive, involve serious examination of important issues based on recent scholarship, and take place over the course of a semester. All classes include assignments designed to enhance skills and broaden perspectives.

Certificate Requirements:

Students in this certificate program must take one of the following two courses (you may take both):

- 38:578:525 Public Sector Employment Issues
- 38:578:565 Public Sector Collective Bargaining

Students can then select additional classes to total the four courses necessary to complete the certificate from the following School of Management and Labor Relations (SMLR) courses and Rutgers Newark School of Public Affairs and Administration (SPAA) courses.

SMLR Master of Labor and Employment Relations Courses
(Take up to three)

- 38:578:515 Conflict Resolution in the Workplace
- 38:578:550 Labor Law
- 38:578:560 Collective Bargaining
- 38:578:520 Benefits and Social Insurance
- 38:578:505 Negotiation

- 38:578:556 Organizational Design and Structure
- 38:578:575 Employment Arbitration Today
- 38:578:569 Mediation Processes & Techniques

SPAA Courses
(Take up to two)

- 20:834:522 Managing Public Organizations
- 20:834:523 Human Resources Administration
- 20:834:527 Public Sector Labor Relations

For more information about the certificate program, visit the website.

Graduate Certificate Programs (SMLR-G)

Graduate Certificate on Workers' Rights

Graduate Certificate on Workers' Rights

Learn about your own rights and the rights of other working people. Consider how rights have been expanded historically. Discuss how efforts to reduce rights today might be countered – or how to expand upon existing rights and make them available to more groups of employees.

The focus of this certificate is on workers' rights in the U.S. However, coursework in this program allows for the opportunity to learn about rights in other countries because some international experience could inform proposals for change in the U.S. For international students, the same insight applies – by learning about workers' rights in the U.S., you can examine potential ways to improve conditions for workers in your own country.

As with other SMLR graduate certificates, this certificate program requires successful completion, with a B or better, of four 3-credit graduate courses. If you later decide to continue on to the full Master of Labor and Employment Relations program, all these courses would count toward that degree.

Students can earn the certificate either with a mix of in-person and online courses or with online courses only. Our online courses are highly interactive, involve serious examination of important issues based on recent scholarship, and take place over the course of a semester. All classes include assignments designed to enhance skills and broaden perspectives.

Part A: Current legal rights and their evolution

At least one course is required in this area. Students may choose to take up to two more.

- 38:578:509 Labor and Democracy
- 38:533:566 Employment Law
- 38:578:521 Immigration Law
- 38:578:550 Labor Law
- 38:578:515 Enforcing Worker Rights
- 38:578:612 Labor/Employment History

Part B: The context of rights; their institutional variety; how worker action and public policy can expand rights

At least one course is required in this area. Students may choose to take up to two more.

- 38:578:559 Organizing for Social Change
- 38:578:560 Collective Bargaining
- 38:578:562 Global Employment Relations Today
- 38:578:527 Economics and Public Policy in a Global Context
- 38:578:555 Globalization and the Future of Employment
- 38:578:525 Public Sector Employment Issues
- 38:578:528 Employment Relations in Sports
- 38:578:567 Shaping the Future of Work
- Other 38:578 courses approved by the Director of the MLER Program

For more information about the certificate program, visit the website.

M.L.E.R. Courses (SMLR-G)

M.L.E.R. COURSES

38:578:500 ***Introductory Seminar in Labor and Employment Relations (3)***
Critical challenges facing workers, employers, labor organizations, and the public with regard to work and employee representation.

38:578:501 ***Research Methods in Labor and Employment Relations (3)***
Definition of a research question; literature reviews; effective research techniques; case-study and survey research methods. Basic statistical skills, data analysis, and presentation.

38:578:502 ***Writing in Employment Relations (3)***
Creation of articulate, persuasive written documents of the type needed in professional positions in employment relations; construction of an argument; intensive, individualized instruction; ESL students particularly welcome.

38:578:503 ***Problem-Solving Tools at Work (3)***
Applied analytical and statistical tools for solving problems at work, surveying employees, and maintaining quality. Projects are individual/group and spreadsheet-intensive.

38:578:504 ***Leadership in Work Organizations (3)***
Leadership theory and its application to work organizations, including unions, nonprofits, and businesses. Leadership of small groups and large organizations; leadership diversity and development.

38:578:505 ***Negotiation (3)***
Negotiation strategy and tactics including positional, interest-based, and other theoretical approaches; rights, power, leverage, concessions, commitment; applications include business and labor contexts; negotiation skill development.

38:578:506 ***Theories of Labor and Employment Relations (3)***
The historical evolution and current state of employment relations theory. Workplace democracy, the source of workplace conflict, alienation, the evolution of class, collective bargaining, and other issues are discussed from a variety of perspectives.

38:578:507 ***Strategic Corporate and Industry Research (3)***
Overview of methods used to investigate the competitive situation/prognosis of an industry's employers, profitability, sales, employment, wages, and unionization; strategic corporate research.

38:578:508 ***Group Processes and Team Dynamics (3)***
Micro facilitation skill development; effective group decision-making or problem-solving event design; moderator behavior allowing a group to identify and achieve its goals.

38:578:509 ***American Workers and Politics (3)***
The democratization of politics and the emergence of workers as citizens; the political role of workers in contemporary U.S. society. The political ideology of American labor and its impact on electoral politics, voting patterns, and political participation.

38:578:510 ***The Inclusive Workplace (3)***
Fostering an inclusive workplace; issues related to race, ethnicity, age, gender, religion, sexual orientation, disability, and other aspects of diversity in work organizations.

38:578:511 ***Emotional Intelligence in the Workplace (3)***
Theory of emotional intelligence and its effects on employee performance and organizational success; research on the development of emotional intelligence; self-awareness and self-development.

38:578:512 ***Self-Development for Professional Success (3)***
How employees can advance their careers given the changing nature of work and organizations; skill assessment/development, career progression, and work/life balance; intergenerational, gender, and racial/ethnic issues.

38:578:513 ***Enforcing Worker Rights (3)***
Labor standards enforcement in theory and practice, wages, hours, overtime, and health/safety violations; diverse strategies for improved enforcement, including involving worker organizations.

38:578:515 ***Conflict Resolution in the Workplace (3)***
Theories of workplace conflict. Critical review and analysis of dispute resolution techniques in union and nonunion workplaces.

38:578:520 ***Benefits and Social Insurance (3)***
Overview of benefits with a focus on social insurance systems, health insurance, and pensions. Emphasis on public policy issues of importance to both unions and employers.

38:578:521 ***Immigration Law***
Contemporary immigration law in the U.S.; employer compliance issues; employee rights; immigrant employee representation and related policy debates.

38:578:525 ***Public Sector Employment Issues (3)***
Scope and nature of public employment; organizations of public employees; problems and issues of federal, state, county, and municipal employees; special problems of particular groups; and emerging patterns of future development.

38:578:526 ***Immigration, Public Policy, and Worker Rights (3)***
The role of immigrant labor in contemporary society and accompanying public policy debates. Theories of migration, history of migration and immigration policy in the United States; labor market dynamics in immigrant-dominated industries. Existing employment and labor rights of immigrant workers. Community, labor, and immigrant organizations' efforts to improve wages, working conditions, and immigration policy.

38:578:527 ***Economics and Public Policy in a Global Context (3)***
Economic policy options around the globe; governments and markets; macro- and micro-level approaches; fiscal and monetary policies; competition and social protection: trade; labor; income inequality.

38:578:528 ***Employment Relations in Sports (3)***
Using a global perspective across different sports and related businesses, examination of union-management relations; individual talent; diversity; and safety-health issues.

38:587:530 ***Globalization, Corporate Restructuring, and Employment (3)***
Study of the impact of globalization and corporate restructuring on individuals, communities, jobs, work systems, organizations, and the economy.

38:578:535 ***Women and Global Labor Movements (3)***
How women are organizing worldwide for gender justice and an improved quality of life; how changing labor movements are addressing gender issues.

38:578:538 ***Financial Analysis and Corporate Governance (3)***
Corporate governance issues; financial statement analysis; and cost accounting for collective bargaining and workplace management.

38:533:540 ***HR Decision-Making: Financial Decisions (3)***
Financial analysis in the HR context. Cost analysis of HR and HR programs. Cost/benefit analysis, organizational finance issues, and HRM.

38:578:541 ***Women and Work (3)***
An analysis of women's experiences and status in a range of work settings; an evaluation of legal, institutional, and public policy responses to issues such as the segregation of work by race and gender, pay equity, the feminization of poverty, sexual harassment, and the restructuring of work and family roles.

38:533:542 ***HR Decision-Making: Data-Based Decisions (3)***
This course addresses research design methodology and basic statistics through regression analysis.

38:578:543 ***Organizational Leadership and Change Management (3)***
Theoretical and practical issues in organization change, including the rationale for change; why change succeeds or fails; effective leadership of change; and ethical concerns.

38:578:544 ***Creating and Sustaining a Learning Organization (3)***
Processes through which organizations learn or fail to learn; designing methods of education, training, and development that encourage organizational learning; theories of organizational and managerial cognition.

38:578:545 ***Disability, Work, and Society (3)***
The relationship of disability to income, work, politics, law, popular culture, and the built environment; lessons for all disadvantaged groups seeking social change.

38:578:550 ***Labor Law (3)***
The statutes and case law that create the framework for private-sector labor management relations, with special attention to current workplace developments and the public policy debates that continue to reshape American labor law.

38:578:551 ***Identity and Discrimination at Work and in the U.S. Labor Market (3)***
Social construction of identity and the consequences for contemporary diversity outcomes; intersectionality of race, ethnicity, gender, sexual orientation, and other forms of identity.

38:578:555 ***Globalization and the Future of Employment (3)***
Changes in the global economy and their effects on living standards, job opportunities, and the bargaining power of American workers and their unions. Role of international labor organizations, transnational corporations, and global financial institutions in global economic change. Strategies for dealing with globalization.

38:578:556 ***Organizational Design and Structure (3)***
Considers diverse modes of involving employee in decision-making and reorganizing work for flexibility, service, and better use of advanced technology. Assess options, consequences, and the responses of organized workers.

38:578:557 ***Trends and Problems in the Nonunion Workplace (3)***
An overview of the nonunion workplace encompassing both research and practice; covers surveys of employee attitudes, key issues, alternative vehicles of employee voice, conflict, and the use of new workplace practices.

38:578:558 ***Seminar in Workplace Democratization (3)***
Diverse models of workplace democratization on the job and at the strategic policy level, including joint governance, employee involvement, collective bargaining, employee ownership, worker cooperatives, and self-management.

38:578:559 ***Organizing for Social Change (3)***
Hands-on look at how people can take action together by creating organizations; recruiting members; analyzing and building power; designing campaigns; and developing winning strategies.

38:578:560 ***Collective Bargaining and Worker Representation (3)***
Unions, collective bargaining, and alternative forms of worker representation in the United States. Overview of both conventional forms of union membership, negotiations, labor law, dispute resolution, and emerging representation and advocacy strategies.

38:578:562 ***Global Employment Relations Today (3)***
Comparison of employment relations systems in selected countries; how labor movements outside the U.S. marshal political and economic resources to represent worker's interests.

38:578:563 ***New Directions in Collective Bargaining (3)***
Departures from traditional patterns of collective bargaining and labor-management relationships. Causal factors that are giving rise to innovative practices. The current debate over the future of collective bargaining. Models for expanding the scope of bargainable issues.

38:533:565 ***Economics and Demographics of Labor Markets (3)***
Covers the changing nature of the workforce, including diversity characteristics and attitudinal shifts. Focus on human resource management tracking and gaining competitive advantage though judicious use of change.

38:578:565 ***Public Sector Collective Bargaining (3)***
The development of public sector bargaining rights and the role of unions in the public sector. The course will analyze state and federal laws, dispute resolution procedures, and political initiatives, with a special emphasis on New Jersey.

38:533:566 ***Employment Law (3)***
Principles of law covering the employment relationship. Some legal issues may also be covered in HR application courses.

38:578:566 ***Work and Social Change (3)***
Changes in the workforce, how economic and social changes are reshaping categories of employees, their organizations and movements, and their needs and desires. Uses both class and social movement perspectives to examine many types of employees.

38:578:567 ***Shaping the Future of Work and the Employment Relationship (3)***
Artificial intelligence, platforms, and other ongoing changes affecting the nature, availability, and rewards for work. Emerging alternatives to traditional employment. Alternative forms of representation and public policies for ameliorating related social problems.

38:578:569 ***Mediation Processes and Techniques***
Theory and practice of mediation in labor disputes, civil litigation and employment discrimination. Mediator qualification and ethics practices; cultural and inclusion issues. Comparison to arbitration, fact finding, conciliation, and negotiation.

38:578:570 ***Interest Dispute Settlement (3)***
The practice and policy implications of fact-finding, mediation, and interest arbitration in the public sector.

38:578:575 ***Employment Arbitration Today (3)***
Arbitration and grievance processes in contemporary U.S. workplaces with and without union representation. Includes an analysis of ongoing controversial public policy & legal issues.

38:578:581 ***Structure and Government of American Unions (3)***
Patterns of union administration on local, intermediate, and national levels; effect of structure on the collective bargaining process; issues of internal democracy; and membership participation in union affairs.

38:578:598,599 ***Individual Studies in Labor and Employment Relations (BA,BA)***
Individually directed study by a student under the direction of an individual faculty member.

38:578:604 ***Creating and Administering Surveys (3)***
Issues for online, mail, telephone, and in-person surveys given their intended use. Samples; item construction; scaling; measurement validity and reliability; improving response rates; ethical research.

38:578:605 ***Action Research (3)***
Action research involves collaboration between organization members and outside experts in a process of improving organizational effectiveness combining insider knowledge with theory and data-driven research. Students will learn the basic processes of designing and implementing a social system change intervention using participatory methods.

38:578:610,611,613,614 ***Topics (3,3,3,3)***
Selected timely topics in employment relations; particular topics to be announced.

38:578:612 ***Labor/Employment History (3)***
The changing nature of work and its organization; history of labor organizations and labor movements; historical situation of major groups of nonrepresented employees; and the impact of changing government policies on employees, employers, and labor relations.

38:578:615-617 ***Issues in Labor and Employment Relations (1,1,1)***
Selected, timely topics in employment relations; particular topic to be announced.

38:578:650-655 ***Selected Issues in Labor and Employment Relations (1,1,1,1,1,1)***
Contemporary issues in labor and employment relations; particular topics to be announced.

38:578:666 ***Asian American Workers in a Global Context (3)***
Connections between race, labor, and political belonging for the Asian American community; overview of interdisciplinary research regarding political representation, forms of structural exclusion, the politics of national belonging, and worker resistance.

38:578:690 ***Internship in Labor and Employment Relations (BA)***
Internship in a labor or community organization addressing employment issues; internship in a public- or private-sector management position dealing with labor and employment issues; or other supervised work experience related to the field.

38:578:694 ***Practicum in Organization Change (BA)***
Research or practice in a real work setting undergoing restructuring or organization change, with particular attention to the consequences for employees and the ways in which their interests can be represented.

38:578:695 ***Practicum in Adult Noncredit Education or Training (BA)***
Research or practice in labor education, management education, or joint extension programming; research or practice in workplace training or continuous learning programs.

38:578:701,702 ***Research in Labor and Employment Relations (BA,BA)***
Supervised research under the direction of an individual faculty member.

Online Professional Master's in Labor and Employment Relations (M.L.E.R) (SMLR-G)

ONLINE PROFESSIONAL MASTER'S IN LABOR AND EMPLOYMENT RELATIONS (M.L.E.R)

Francis Ryan, Director

This 36-credit professional program is designed for working adults with a demonstrated interest in either labor/social justice, or managing employees well. Graduates have a variety of intellectual interests and career objectives. The master's program in labor and employment relations (M.L.E.R.) combines professional training with intellectual exploration to produce graduates who are thoughtful professionals, informed leaders, and/or researchers grounded in contemporary reality.

The program is 100% online and allows working professionals enrolled part-time to balance full-time employment with coursework. Students are encouraged to begin with one or two courses per semester to start. Courses are available year-round and typically are asynchronous; students do not need to be online on a specific day/time to complete course activities. Some courses are synchronous and meet remotely through Zoom or similar platforms. Students in the online courses will be both from this program and our traditional MLER program.

More information about the program is available on the website.

Contacting Us:
The M.L.E.R. office is located in the School of Management and Labor Relations.
Janice H. Levin Building
Rutgers, The State University of New Jersey
94 Rockafeller Road, Piscataway, NJ 08854-8054
Phone: 848-932-0303
Email: fr156@smlr.rutgers.edu

Online M.L.E.R. Program Structure and Degree Requirements

Online M.L.E.R. Courses

Online M.L.E.R. Program Structure and Degree Requirements (SMLR-G)

ONLINE M.L.E.R. PROGRAM STRUCTURE AND DEGREE REQUIREMENTS

To earn the online professional master of labor and employment relations (MLER) degree, students are required to successfully complete 36 credits of coursework. Of these 36 credits, 24 credits must be taken in required courses in labor and employment relations and 12 credits in elective courses.

The following are required courses (12 credits):

38:578:500 Introductory Seminar in Labor and Employment Relations (3)
38:578:560 Collective Bargaining & Worker Representation (3)
38:578:527 Economics and Public Policy in a Global Context (3)
38:533:540 HR Decision Making: Financial Decisions (3)

Students also must take at least one course from each of the following core areas (12 credits):

Law
38:578:550 Labor Law
38:578:521 Immigration Law
38:533:566 Employment Law

Workforce Diversity
38:578:541 Women and Work
38:578:510 The Inclusive Workforce

Research Methods
38:578:501 Research Methods in Labor and Employment Relations
38:578:613 Topics: Problem-Solving Tools and Analysis in Employment Relations
38:578:604 Creating and Administering Surveys

Institutional Variety
38:578:562 Global Employment Relations Today
38:578:612 Labor/Employment History

Elective Courses (select 4 courses, 12 credits)
38:578:505 Negotiation
38:624:516 Interpersonal Conflict at Work
38:578:525 Public Sector Employment Issues
38:578:504 Leadership in Work Organizations
38:578:511 Emotional Intelligence in the Workplace
38:578:567 Shaping the Future of Work
38:578:513 Enforcing Worker Rights
38:578:543 Organizational Leadership & Change Management
Any second course from a competency area

Online M.L.E.R. Courses (SMLR-G)

ONLINE M.L.E.R. Courses

38:533:565 ***Economics and Demographics of Labor Markets (3)***
Covers the changing nature of the workforce, including diversity characteristics and attitudinal shifts. Focus on human resource management tracking and gaining competitive advantage though judicious use of change.

38:533:566 ***Employment Law (3)***
Principles of law covering the employment relationship. Some legal issues may also be covered in HR application courses.

38:578:500 ***Introductory Seminar in Labor and Employment Relations (3)***
Critical challenges facing workers, employers, labor organizations, and the public with regard to work and employee representation.

38:578:501 ***Research Methods in Labor and Employment Relations (3)***
Definition of a research question; literature reviews; effective research techniques; case-study and survey research methods. Basic statistical skills, data analysis, and presentation.

38:578:502 ***Writing in Employment Relations (3)***
Creation of articulate, persuasive written documents of the type needed in professional positions in employment relations; construction of an argument; intensive, individualized instruction; ESL students particularly welcome.

38:578:503 ***Problem-solving Tools at Work (3)***
Applied analytical and statistical tools for solving problems at work, surveying employees, and maintaining quality. Projects are individual/group and spreadsheet-intensive.

38:578:504 ***Leadership in Work Organizations (3)***
Leadership theory and its application to work organizations, including unions, nonprofits, and businesses. Leadership of small groups and large organizations; leadership diversity and development.

38:578:505 ***Negotiation (3)***
Negotiation strategy and tactics including positional, interest-based, and other theoretical approaches; rights, power, leverage, concessions, commitment; applications include business and labor contexts; negotiation skill development.

38:578:506 ***Theories of Labor and Employment Relations (3)***
The historical evolution and current state of employment relations theory. Workplace democracy, the source of workplace conflict, alienation, the evolution of class, collective bargaining, and other issues are discussed from a variety of perspectives.

38:578:507 ***Strategic Corporate and Industry Research (3)***
Overview of methods used to investigate the competitive situation/prognosis of an industry's employers, profitability, sales, employment, wages, and unionization; strategic corporate research.

38:578:508 ***Group Processes and Team Dynamics (3)***
Micro facilitation skill development; effective group decision-making or problem-solving event design; moderator behavior allowing a group to identify and achieve its goals.

38:578:509 ***American Workers and Politics (3)***
The democratization of politics and the emergence of workers as citizens; the political role of workers in contemporary U.S. society. The political ideology of American labor and its impact on electoral politics, voting patterns, and political participation.

38:578:510 ***The Inclusive Workplace (3)***
Fostering an inclusive workplace; issues related to race, ethnicity, age, gender, religion, sexual orientation, disability, and other aspects of diversity in work organizations.

38:578:511 ***Emotional Intelligence in the Workplace (3)***
Theory of emotional intelligence and its effects on employee performance and organizational success; research on the development of emotional intelligence; self-awareness and self- development.

38:578:512 ***Self-Development for Professional Success (3)***
How employees can advance their careers given the changing nature of work and organizations; skill assessment/ development, career progression, and work/life balance; intergenerational, gender, and racial/ethnic issues.

38:578:513 ***Enforcing Worker Rights (3)***
Labor standards enforcement in theory and practice, wages, hours, overtime, and health/safety violations; diverse strategies for improved enforcement, including involving worker organizations.

38:578:515 ***Conflict Resolution in the Workplace (3)***
Theories of workplace conflict. Critical review and analysis of dispute resolution techniques in union and nonunion workplaces.

38:624:516 ***Interpersonal Conflict at Work (3)***
Major theories and evidence on conflict between coworkers; competencies developed for effective management or resolution of this ubiquitous phenomenon by all involved; improved performance and work group cohesion.

38:578:520 ***Benefits and Social Insurance (3)***
Overview of benefits with a focus on social insurance systems, health insurance, and pensions. Emphasis on public policy issues of importance to both unions and employers.

38:578:521 ***Immigration Law (3)***
Contemporary immigration law in the U.S.; employer compliance issues; employee rights; immigrant employee representation and related policy debates.

38:578:525 ***Public Sector Employment Issues (3)***
Scope and nature of public employment; organizations of public employees; problems and issues of federal, state, county, and municipal employees; special problems of particular groups; and emerging patterns of future development.

38:578:526 ***Immigration, Public Policy, and Worker Rights (3)***
The role of immigrant labor in contemporary society and accompanying public policy debates. Theories of migration, history of migration and immigration policy in the United States; labor market dynamics in immigrant-dominated industries. Existing employment and labor rights of immigrant workers. Community, labor, and immigrant organizations' efforts to improve wages, working conditions, and immigration policy.

38:578:527 ***Economics and Public Policy in a Global Context (3)***
Economic policy options around the globe; governments and markets; macro- and micro-level approaches; fiscal and monetary policies; competition and social protection: trade; labor; income inequality.

38:578:528 ***Employment Relations in Sports (3)***
Using a global perspective across different sports and related businesses, examination of union- management relations; individual talent; diversity; and safety-health issues.

38:587:530 ***Globalization, Corporate Restructuring, and Employment (3)***
Study of the impact of globalization and corporate restructuring on individuals, communities, jobs, work systems, organizations, and the economy.

38:578:535 ***Women and Global Labor Movements (3)***
How women are organizing worldwide for gender justice and an improved quality of life; how changing labor movements are addressing gender issues.

38:578:538 ***Financial Analysis and Corporate Governance (3)***
Corporate governance issues; financial statement analysis; and cost accounting for collective bargaining and workplace management.

38:533:540 ***HR Decision-Making: Financial Decisions (3)***
Financial analysis in the HR context. Cost analysis of HR and HR programs. Cost/benefit analysis, organizational finance issues, and HRM.

38:578:541 ***Women and Work (3)***
An analysis of women's experiences and status in a range of work settings; an evaluation of legal, institutional, and public policy responses to issues such as the segregation of work by race and gender, pay equity, the feminization of poverty, sexual harassment, and the restructuring of work and family roles.

38:533:542 ***HR Decision-Making: Data-Based Decisions (3)***
This course addresses research design methodology and basic statistics through regression analysis.

38:578:543 ***Organizational Leadership and Change Management (3)***
Theoretical and practical issues in organization change, including the rationale for change; why change succeeds or fails; effective leadership of change; and ethical concerns.

38:578:544 ***Creating and Sustaining a Learning Organization (3)***
Processes through which organizations learn or fail to learn; designing methods of education, training, and development that encourage organizational learning; theories of organizational and managerial cognition.

38:578:545 ***Disability, Work, and Society (3)***
The relationship of disability to income, work, politics, law, popular culture, and the built environment; lessons for all disadvantaged groups seeking social change.

38:578:550 ***Labor Law (3)***
The statutes and case law that create the framework for private-sector labor management relations, with special attention to current workplace developments and the public policy debates that continue to reshape American labor law.

38:578:551 ***Identity and Discrimination at Work and in the U.S. Labor Market (3)***
Social construction of identity and the consequences for contemporary diversity outcomes; intersectionality of race, ethnicity, gender, sexual orientation, and other forms of identity.

38:578:555 ***Globalization and the Future of Employment (3)***
Changes in the global economy and their effects on living standards, job opportunities, and the bargaining power of American workers and their unions. Role of international labor organizations, transnational corporations, and global financial institutions in global economic change. Strategies for dealing with globalization.

38:578:556 ***Organizational Design and Structure (3)***
Considers diverse modes of involving employee in decision-making and reorganizing work for flexibility, service, and better use of advanced technology. Assess options, consequences, and the responses of organized workers.

38:578:557 ***Trends and Problems in the Nonunion Workplace (3)***
An overview of the nonunion workplace encompassing both research and practice; covers surveys of employee attitudes, key issues, alternative vehicles of employee voice, conflict, and the use of new workplace practices.

38:578:558 ***Seminar in Workplace Democratization (3)***
Diverse models of workplace democratization on the job and at the strategic policy level, including joint governance, employee involvement, collective bargaining, employee ownership, worker cooperatives, and self-management.

38:578:559 ***Organizing for Social Change (3)***
Hands-on look at how people can take action together by creating organizations; recruiting members; analyzing and building power; designing campaigns; and developing winning strategies.

38:578:560 ***Collective Bargaining and Worker Representation (3)***
Unions, collective bargaining, and alternative forms of worker representation in the United States. Overview of both conventional forms of union membership, negotiations, labor law, dispute resolution, and emerging representation and advocacy strategies.

38:578:562 ***Global Employment Relations Today (3)***
Comparison of employment relations systems in selected countries; how labor movements outside the U.S. marshal political and economic resources to represent worker's interests.

38:578:563 ***New Directions in Collective Bargaining (3)***
Departures from traditional patterns of collective bargaining and labor-management relationships. Causal factors that are giving rise to innovative practices. The current debate over the future of collective bargaining. Models for expanding the scope of bargainable issues.

38:578:565 ***Public Sector Collective Bargaining (3)***
The development of public sector bargaining rights and the role of unions in the public sector. The course will analyze state and federal laws, dispute resolution procedures, and political initiatives, with a special emphasis on New Jersey.

38:578:566 ***Work and Social Change (3)***
Changes in the workforce, how economic and social changes are reshaping categories of employees, their organizations and movements, and their needs and desires. Uses both class and social movement perspectives to examine many types of employees.

38:578:567 ***Shaping the Future of Work and the Employment Relationship (3)***
Artificial intelligence, platforms, and other ongoing changes affecting the nature, availability, and rewards for work. Emerging alternatives to traditional employment. Alternative forms of representation and public policies for ameliorating related social problems.

38:578:569 ***Mediation Processes and Techniques (3)***
Theory and practice of mediation in labor disputes, civil litigation and employment discrimination. Mediator qualification and ethics practices; cultural and inclusion issues. Comparison to arbitration, fact finding, conciliation, and negotiation.

38:578:570 ***Interest Dispute Settlement (3)***
The practice and policy implications of fact-finding, mediation, and interest arbitration in the public sector.

38:578:575 ***Employment Arbitration Today (3)***
Arbitration and grievance processes in contemporary U.S. workplaces with and without union representation. Includes an analysis of ongoing controversial public policy & legal issues.

38:578:581 ***Structure and Government of American Unions (3)***
Patterns of union administration on local, intermediate, and national levels; effect of structure on the collective bargaining process; issues of internal democracy; and membership participation in union affairs.

38:578:598,599 ***Individual Studies in Labor and Employment Relations (BA,BA)***
Individually directed study by a student under the direction of an individual faculty member.

38:578:604 ***Creating and Administering Surveys (3)***
Issues for online, mail, telephone, and in-person surveys given their intended use. Samples; item construction; scaling; measurement validity and reliability; improving response rates; ethical research.

38:578:605 ***Action Research (3)***
Action research involves collaboration between organization members and outside experts in a process of improving organizational effectiveness combining insider knowledge with theory and data-driven research. Students will learn the basic processes of designing and implementing a social system change intervention using participatory methods.

38:578:610,611,613,614 ***Topics (3,3,3,3)***
Selected timely topics in employment relations; particular topics to be announced.

38:578:612 ***Labor/Employment History (3)***
The changing nature of work and its organization; history of labor organizations and labor movements; historical situation of major groups of nonrepresented employees; and the impact of changing government policies on employees, employers, and labor relations.

38:578:615-617 ***Issues in Labor and Employment Relations (1,1,1)***
Selected, timely topics in employment relations; particular topic to be announced.

38:578:650-655 ***Selected Issues in Labor and Employment Relations (1,1,1,1,1,1)***
Contemporary issues in labor and employment relations; particular topics to be announced.

38:578:666 ***Asian American Workers in a Global Context (3)***
Connections between race, labor, and political belonging for the Asian American community; overview of interdisciplinary research regarding political representation, forms of structural exclusion, the politics of national belonging, and worker resistance.

38:578:690 ***Internship in Labor and Employment Relations (BA)***
Internship in a labor or community organization addressing employment issues; internship in a public- or private-sector management position dealing with labor and employment issues; or other supervised work experience related to the field.

38:578:694 ***Practicum in Organization Change (BA)***
Research or practice in a real work setting undergoing restructuring or organization change, with particular attention to the consequences for employees and the ways in which their interests can be represented.

38:578:695 ***Practicum in Adult Noncredit Education or Training (BA)***
Research or practice in labor education, management education, or joint extension programming; research or practice in workplace training or continuous learning programs.

38:578:701,702 ***Research in Labor and Employment Relations (BA,BA)***
Supervised research under the direction of an individual faculty member.

Five-Year Bachelor of Arts or Bachelor of Science/ Master of Labor and Employment Relations Degree Program (SMLR-G)

FIVE-YEAR BACHELOR OF ARTS OR BACHELOR OF SCIENCE/ MASTER OF LABOR AND EMPLOYMENT RELATIONS DEGREE PROGRAM

Paula B. Voos, Academic Program Director, Labor Studies and Employment Relations Programs
Francis Ryan, Director, M.L.E.R. Program

The five-year B.A. or B.S./M.L.E.R. program allows students to complete a bachelor of arts (B.A.) or bachelor of science (B.S.) degree in labor studies and employment relations and a master of labor and employment relations (M.L.E.R.) degree in five years of full-time study. Students who graduate from the program are prepared to assume responsible positions in the field of labor and employment relations.

Program (SMLR-G)

PROGRAM

Students who graduate with an undergraduate major in labor studies and employment relations may be able to complete a master's degree in labor and employment relations on an accelerated timetable. When they enter

the program, undergraduate majors may waive as many as 9 credits of graduate work normally required for the advanced degree. In addition, they may be able to take two graduate-level courses while they are undergraduate students. If these two courses are creditable beyond the 120 credits needed to obtain the B.A. degree, they may be counted toward the graduate degree.

Students interested in this program should first become a major. Then in their junior year, they should speak to an advisor or the graduate program director about what to take to be ready for the graduate program. The formal application to the five-year version of the master's program should be submitted to Rutgers Graduate Admissions early in the final semester before graduation.

Application Information (SMLR-G)

APPLICATION INFORMATION

Generally, students seeking to enter the five-year program are subject to the same admission requirements as individuals applying to the master of labor and employment relations (M.L.E.R.) degree program. The application is made formally to Rutgers Graduate Admissions early in the final semester of the student's undergraduate career.

Students may apply for fall or spring semester admission, and they may be eligible to take summer courses on a nonmatriculated basis before admission in the fall. The program requires two or three letters of reference, preferably from SMLR or other Rutgers faculty members, a personal statement, and a professional resume. Acceptance is contingent upon successful completion of the bachelor of arts (B.A.) or bachelor of science (B.S.) degree, but the program can make provisional admission decisions as soon as it receives a completed application and transcripts from all higher education institutions attended.

Ph.D. Program in Industrial Relations and Human Resources (I.R.H.R) (SMLR-G)

PH.D. PROGRAM IN INDUSTRIAL RELATIONS AND HUMAN RESOURCES (I.R.H.R.)

Jessica R. Methot, Director

The Ph.D. in industrial relations and human resources (I.R.H.R.) is an interdisciplinary program that develops research and teaching skills to qualify students for employment as tenure-track college or university faculty. Our program produces distinguished researchers and teachers who merge the worlds of theory and practice. We have a collaborative approach that encourages work across academic areas and across Rutgers. This allows students to tackle the newest trends and biggest challenges in research.

The I.R.H.R. program is designed for people who want to:

- Work with leading scholars who are nationally and internationally recognized experts in a broad range of topics in industrial relations and human resources.

- Become leading scholars by learning how to design, conduct, and publish rigorous research in scholarly journals such as *Academy of Management Journal*, *Academy of Management Review*, *Industrial and Labor Relations Review*, *Industrial Relations*, and *Journal of Applied Psychology*, among others.
- Become impactful teachers by working as teaching assistants and teaching their own courses, translating research into practical applications, and guiding students along their academic journey.

I.R.H.R. Admission

I.R.H.R. Program Structure and Degree Requirements

Master's Thesis

Qualifying Examination

Dissertation

Research Involvement

Financial Assistance

I.R.H.R. Courses

I.R.H.R. Admission (SMLR-G)

I.R.H.R. ADMISSION

Admission to the Ph.D. program in Industrial Relations and Human Resources (I.R.H.R.) is competitive and highly selective. On average, two or three students are admitted to the program per year. The school values diversity and is strongly committed to equal opportunity.

When evaluating applications, the faculty considers test scores, past academic educational achievement, research experience, and relevant work experience. Students who have no research experience or training are not likely to be admitted to the Ph.D. program. The admissions committee puts a high priority on ensuring that each admitted student is matched to good faculty advisors, so in your personal statement it is valuable for you to draw connections between your interests and the expertise of specific faculty members who could be your advisors.

Completion of a terminal master's degree in a related field of study is not required for admission. A student who holds a master's degree upon entering the program may transfer some credits but they must fulfill the same degree requirements as students who do not hold a relevant master's degree.

New students are admitted once per year and the application deadline is **January 5th**. Decisions are made on a rolling basis after the application deadline. We seek to make offers by the end of January, although the timing of the process may vary by primary field (Human Resources, or Labor Work and Society), and the particular pool of applicants in a given year. All decisions will be made by **March 31st** for initial enrollment in the following fall semester. You can learn more about the application process, and can apply online through Rutgers Graduate and Professional Admissions.

I.R.H.R. Program Structure and Degree Requirements (SMLR-G)

PROGRAM STRUCTURE AND DEGREE REQUIREMENTS

The program of study in industrial relations and human resources (I.R.H.R.) requires all students to:

1. Complete three core seminars
2. Select a primary field of either Human Resources or Labor, Work, and Society, in which five courses will be taken
3. Either select a secondary field in which three courses will be taken, or take three electives if no secondary field is chosen
4. Complete four statistics and research methods courses
5. Complete a master's thesis
6. Complete a dissertation
7. Attend the Proseminar, consisting of presentations by SMLR faculty, outside scholars, and Ph.D. students

Students can take doctoral courses at Princeton, Columbia, New York University, CUNY, Fordham, New School, or Stony Brook as part of their studies, through the Inter-University Consortium in which Rutgers participates.

Course Outline

Seminar in Industrial Relations: A Survey of the Scholarly Literature (3)

Seminar in Human Resources: Macro Foundations (3)

Seminar in Organizational Behavior (3)

Primary field (15): either

1. Human Resources or

2. Labor, Work, and Society

Secondary field (9): either

1. Human Resources or

2. Labor, Work, and Society

3. Customized, or

4. No secondary field, with 9 credits of electives approved by director

Research Methods (3)

Statistics I (3)

Statistics II (3)

Advanced statistics or methodology elective (3)

Master's thesis (6)

Proseminar credits (3)

Doctoral thesis credits (18)

For additional information, view the program website.

Master's Thesis (SMLR-G)

MASTER'S THESIS

During their second year in the program, students complete an empirical research project under the guidance of a three-person thesis committee. A member or associate member of the SMLR graduate faculty may serve as the committee chair and direct the research project. A satisfactory oral defense of the thesis is required. Upon completion of the thesis and oral defense, and 30 credits of coursework (of which 6 may be research credits for completing the thesis), students are awarded the master of science degree and become eligible to take the qualifying exam.

Qualifying Examination (SMLR-G)

QUALIFYING EXAMINATION

The qualifying exam assesses students' knowledge of, and ability to synthesize, the theory and methods covered in their required and elective courses and in their specialized fields of study. It covers the I.R.H.R. literature that is considered the foundation upon which the student's career and future research are based, as well as the research methods and data analysis techniques that are relevant to the student's chosen area of specialty. The format is take-home. The exam is offered once annually, and all students sit for the exam at the same time (or at a time agreed to by the student's advisory committee and the Graduate Director). Normally, students take the qualifying exam in the summer after their second year. To sit for the exam, students need to have (1) successfully defended their master's thesis and (2) completed a minimum of 42 course credits. The qualifying exam is graded and must be approved by at least four members of the I.R.H.R. graduate faculty. Students who fail the exam must retake it within four months. After passing the qualifying exam, students are admitted to Ph.D. candidacy.

Dissertation (SMLR-G)

DISSERTATION

Students complete a dissertation during their fourth and fifth years. The dissertation committee must be chaired by a member of the I.R.H.R. graduate faculty and include at least three other faculty. At least one member of the committee must be from outside the I.R.H.R. graduate faculty. Members from outside Rutgers are preferable. All students present and defend their dissertation proposals in a seminar format. The proposal defense is open to

all interested faculty and Ph.D. students, although only the committee members vote on the acceptability of the proposal. A final oral defense takes place upon completion of the dissertation. The defense is open to the public and must be announced at least two weeks in advance.

Research Involvement (SMLR-G)

RESEARCH INVOLVEMENT

Students are expected to be actively involved in research throughout the entire time they are enrolled in the program. To facilitate this, students are assigned to a research advisor upon their admission into the program. Students may change their research advisor, by mutual agreement, at the end of their first year and any time thereafter. Research advisors provide annual assessments of students' research activities, and satisfactory performance is required in order for students to remain in good standing in the program and continue to receive financial assistance.

Financial Assistance (SMLR-G)

FINANCIAL ASSISTANCE

Admitted students typically receive funding for five years. This includes:

- A 9-month stipend
- Free tuition (100% tuition waiver)
- Summer support
- An office, a computer, and software
- Limited travel support for conferences
- Additional limited research support to support research expenses not otherwise covered by the program.

For detailed information on the amount of funding currently available for admitted students, visit the program website.

I.R.H.R. Courses (SMLR-G)

COURSES

16:545:601,602 ***Independent Study in Industrial Relations and Human Resources (BA, BA)***
Directed study under the supervision of a faculty member.

16:545:610 ***Proseminar in Industrial Relations and Human Resources (.5)***
Research, theoretical, or pedagogical presentation by School of Management and Labor Relations faculty, outside scholars, and advanced Ph.D. students. Students must enroll for at least six semesters.
Offered fall and spring.

16:545:611 ***Seminar in Industrial Relations: A Survey of the Scholarly Literature (3)***
Industrial relations systems theory. Analysis of managerial capitalism and the diffusion of systematic management techniques; the development of modern craft, industrial, and professional labor organizations. The emergence of the regulatory state and the role of law and specialized government agencies in regulating industrial conflict. Conceptual framework to assess bargaining power, negotiation processes, grievance procedures, and conflict resolution.

16:545:612 ***Seminar in Human Resources: Macro Foundations (3)***
Analysis of how firms can use human resource management practices to enhance individual and organizational performance. Examines emerging theoretical perspectives, contextual factors, intellectual capital, and other factors that influence the linkages between human resources and performance.

16:545:613 ***Research Methods for Industrial Relations and Human Resources (3)***
Problems of research design, data collection, data management, and the selection of analytical techniques.

16:545:614 ***Multivariate Analysis for Industrial Relations and Human Resources (3)***
Multiple regression, analysis of variance, analysis of covariance, factor analysis, canonical correlation, and cluster analysis.
Prerequisites: A Ph.D.-level course in regression and an additional Ph.D.-level measurement or statistics course.

16:545:615 ***Economics for Industrial Relations and Human Resources (3)***
Alternative theories of the firm and labor markets explored, with focus on competing hypotheses and research evidence about wage and benefit determination, internal labor markets, discrimination, unions, and employee incentive systems.

16:545:616 ***Seminar in Human Resources: Micro Foundations (3)***
Critical review of theory and research on specific human resource practices and functional areas. Includes research on recruitment, selection, performance management, compensation, and training and development. Emphasizes importance of integrating human resource management practices with other functional areas and with business strategy. Also examines contextual influences on implementation and outcomes.

16:545:617 ***Multilevel Theory and Research (3)***
Critical analysis of the theoretical and statistical foundations of multilevel research in a human resource management context. Focuses on processes and outcomes across different levels.

16:545:618 ***Organizational Behavior (3)***
A critical analysis of some of the major topics in organizational behavior that influence the study of employment relations and human resource management. Topics include personality, group dynamics, leadership, justice, trust, diversity, and culture.

16:545:619 ***Organizational Theory (3)***
Surveys the major theoretical perspectives and issues studied in organization theory research. Sample topics include institutional theory, contingency theory, transaction cost economics, population ecology, and sense making.

16:545:620,621 ***Selected Problems in Industrial Relations and Human Resources (3,3)***
Special topics in industrial relations and human resources of current interest.

16:545:623 ***Comparative Political Economy of Work (3)***
The course familiarizes students with cutting-edge research on the comparative political economy of work, labor, and education. Covering both central conceptual tools and empirical findings of this rich interdisciplinary space, the class focuses is the political determinants of how societies govern work, with particular attention to changes in institutions.

16:545:701,702 ***Research in Industrial Relations and Human Resources (3,3)***
Dissertation study.

About the School (GSE)

ABOUT THE SCHOOL

The School of Education was organized in 1923 to bring together the capacity within the university that contributes to the education of personnel in professional education and to scholarship in the field of education. On April 8, 1960, the Board of Governors of Rutgers, The State University of New Jersey, changed the name of the school to the Graduate School of Education (GSE). This change recognized the changing role of the school in the preparation of educational personnel as a graduate institution offering the master of education and doctor of education degrees. In 2012, the GSE faculty adopted the mission statement embodied in the following paragraphs:

The Rutgers University Graduate School of Education is dedicated to the study and improvement of education. This creation of knowledge about teaching and learning is central to our mission. We seek to ensure that all children and adults have access to high-quality educational programs. As such, our work addresses the cognitive, social, organizational, cultural, linguistic, developmental, and policy dimensions of education.

Our faculty makes unique and significant contributions to educational scholarship by conducting research and improving practice in relations to three pressing issues in education: (i) meeting the needs of diverse learners, (ii) using emerging digital pedagogical tools effectively, and (iii) addressing the equity and adequacy of financial, human, and social resources for PK-12 and higher education.

Our instructional programs are designed to produce graduates who become effective educational practitioners, transformative educational leaders, and accomplished educational researchers. Our partnerships and service contributions focus on New Jersey but extend to both national and global communities.

In summary, our mission is to create new knowledge about educational processes and to lead in the development of research-based instructional, professional, and outreach programs.

For up-to-date information about academic programs, alumni news, the dean's office, our mission, research centers, and student services, visit the school's website.

Location (GSE)

Location

New Brunswick, with a population of about 57,000, is located in central New Jersey at Exit 9 of the New Jersey Turnpike and along the New York-Philadelphia railroad line. It is approximately 33 miles from New York City, with frequent express bus service available from a station near the College Avenue campus to terminals in central Manhattan. To the south, Princeton is 16 miles away, Philadelphia about 60 miles, and Washington, D.C., less than 200 miles.

Rutgers attracts many distinguished visitors, lecturers, and performing artists not always available to less favorably situated institutions. In addition, the libraries, theaters, concert halls, museums, galleries, research institutes, clubs, and other educational, cultural, and recreational resources of the New York-Philadelphia region are easily accessible. Newark, the state's largest city, and Camden, which faces Philadelphia across the Delaware River, are characteristic northeastern American metropolitan centers. Each city is undergoing rapid development with a view toward providing for its region and for wider society. A distance of 20 miles separates Rutgers University-Newark from Rutgers University-New Brunswick, and some faculty members and graduate students involve themselves in activities at both locations. The distance between Rutgers-New Brunswick and Rutgers University-Camden is about 55 miles, making intercampus interchanges less frequent. However, the faculty participating in Rutgers-New Brunswick graduate programs includes members from Rutgers-Camden and Rutgers-Newark.

Degree Programs (GSE)

DEGREE PROGRAMS

AVAILABLE PROGRAMS OF STUDY

Degree	For...	Specialization
Doctor of Philosophy in Education (Ph.D.)	Aspiring researchers	Learning, Cognition, Instruction, and Development (LCID); Theory, Organization, and Policy (TOP)
Doctor of Philosophy in Higher Education (Ph.D.)	Aspiring researchers	Higher Education
Doctor of Education (Ed.D.) programs	Scholarly practitioners; educational leaders; change agents in PK-12, higher education, or other organizations that provide education	Design of Learning Environments; Educational Leadership; Education, Culture, and Society; Special Education; Teacher Leadership
Master of Education (Ed.M.) programs with no state certification	Practitioners who are already licensed or who do not wish to be; or students preparing for doctoral study	Adult and Continuing Education; College Student Affairs; Counseling Psychology; Dance Education; Early Childhood/Elementary Education; Educational Administration and Supervision; Education, Culture, and Society; Educational Statistics, Measurement, and Evaluation; Language Education; Learning, Cognition, and Development; Literacy Education; Mathematics Education; Science Education; Social Studies Education; Special Education
Master of Education (Ed.M.) programs with state certification: post-baccalaureate teaching	Bachelor's degree holders who wish to earn a state license as a teacher, while earning a master's degree	Dance Education; Elementary Education (K-6); English Education; Language Education: English as a Second Language; Language Education: Teacher of World Languages; Mathematics Education; Science Education: Biological Science; Science Education: Physical Science and/or Physics Education; Social Studies

Master of Education (Ed.M.) programs with state certification: other	Bachelor's degree holders who wish to earn a state license as an administrator or educational services provider, while earning a master's degree	Educational Administration and Supervision (Supervisor, Principal); Reading Specialist with Supervisor; School Counseling; Special Education/ Learning Disabilities Teacher-Consultant (LDT-C); Teacher of Students with Disabilities (TOSD)
Combined Five-Year B.A./B.S./Ed.M. programs with state certification	Rutgers undergraduates who wish to pursue New Jersey teacher certification	Dance Education; Early Childhood (P-3) and Elementary Education (K-6); Elementary Education (K-6) with Subject Matter Specialization (5-8); English as a Second Language (ESL) Education; English Education; Language Education; Mathematics Education; Science Education: Biological Science; Science Education: Physical Science and/or Physics Education; Environmental and Biological Science Education: Agricultural or Biological Science; Environmental and Biological Science Education: Physical Science; Social Studies Education; Special Education and Elementary Education
Non-degree state certification programs	Practitioners who wish to earn a state license in a given field without earning a degree	Bilingual/Bi-cultural Education; English as a Second Language; Learning Disabilities Teacher-Consultant (LDT-C); Preschool through Grade 3; Principal, Reading Specialist; School Administrator; Supervisor; Teacher of Students with Disabilities
Non-degree skill development programs	Practitioners who wish to develop additional expertise in a specific area	Educational Technology; Ed Tech for Adult Education; Gifted Education; Infant/Early Childhood Specialist; Higher Education Teaching; Adult Literacy and ESL; Human Resources Development; Maker Education; Community College Leadership, Athletic Coaching in Education
Education as a social science minor	Undergraduates interested in investigating learning and teaching in a broad range of human contexts. The minor does not prepare students for a career in teaching.	There is one minor with seven optional tracks: Community Study and Civic Engagement; Digital Learning; Educational Policy and Social Justice; Creativity and Play; Global Education; Exceptional Learners; General Studies

Admission (GSE)

ADMISSION

Inquiries regarding specific programs should be directed to the department or program of interest. Current information on whom to contact for each program can be found on the GSE website.

Requirements (GSE)

Requirements

Admission to the Graduate School of Education is open to individuals who have graduated from approved institutions and show evidence of potential for the successful completion of a graduate program. Admission to the Graduate School of Education is competitive. Admissions decisions are informed judgments based upon the applicant's previous academic performance, standardized test scores, experience and achievement, recommendations, and other relevant data. In addition, the number of students who can be accommodated in some programs is limited.

Applications are reviewed by the faculty of the programs and the department to which the applicant applies.

Admission requirements vary among the programs. Applicants should review carefully the information and instructions provided on the application website.

Application Procedures (GSE)

Application Procedures

Application materials are available from the Office of Graduate and Professional Admissions, Rutgers, The State University of New Jersey, 65 Davidson Road, Suite 308 Piscataway, NJ 08854-5602 U.S.A. (848-932-7711), or on Rutgers' graduate admissions website. A complete application consists of the application form, the application fee, official transcripts, the personal statement or essay, letters of recommendation, and test scores. Detailed procedures and instructions accompany the application forms. Applications should be filed online with the Office of Graduate and Professional Admissions as early as possible to meet the deadlines listed in the application materials. Applicants are responsible for ensuring that their applications are complete and for adhering to all policies and procedures as stated in the instructions.

Deadlines (GSE)

Deadlines

Deadlines for each program are listed on the Graduate School of Education website at Admissions. The deadline for consideration for assistantships, fellowships, and other forms of financial aid is February 1. International students must follow the same deadlines as all other students. Programs may, at their discretion, close admission prior to stated deadlines or extend deadline dates if sufficient time exists to render decisions. Applicants are encouraged to apply as early as possible.

Tests (GSE)

Tests

Students applying to the five-year or post-baccalaureate initial teacher certification programs may submit SAT, ACT, or Praxis Core scores as part of their application as long as those scores meet the minimum requirement and are not older than five years at the time of application. For information regarding the minimum scores required for each test please visit the Graduate School of Education (GSE) website.

Programs at the GSE have varying admissions requirements. Some require GRE scores while others do not. Please check with the specific program for details.

Doctoral programs (Ph.D. and Ed.D.) no longer require the GREs.

The Ed.M. programs that require GRE scores are educational statistics and measurement; literacy education, and math education.

Although some programs may require GRE scores, supplemental materials (personal statement, letters of recommendation, and professional experiences) assist in providing a greater understanding of an individual's readiness, preparation, and commitment for graduate study.

GRE information and application forms can be obtained online.

International Applicants (GSE)

International Applicants

All international applicants should begin their Rutgers journey by contacting the Rutgers Global Office. This office will assist with all questions regarding your visa, travel etc.

The Test of English as a Foreign Language (TOEFL) is required if English is not the applicant's native language. For further information, please visit the website. Satisfactory English proficiency is a prerequisite for graduate study at the university. Applicants failing to meet standards for English proficiency may be required to take a test upon arrival at the university and to take coursework in English as a second language. Non-immigrant students also must present evidence of adequate financial resources.

For information on the minimum requirements for TOEFL scores go to Graduate and Professional Admissions.

Nondegree Study (GSE)

Nondegree Study

The Graduate School of Education welcomes students to take classes on a non-degree basis. Applicants should file an application with the Office of Graduate and Professional Admissions. Applicants who are accepted as non-degree students are permitted to register for an unlimited number of courses with approval of the appropriate department chair. Such courses carry full Rutgers University credit; in most programs, however, a maximum of 12 credits will be accepted by the school toward a degree should the student later be admitted to a degree program.

Non-degree students who wish to enter a degree program in the Graduate School of Education must file a separate application and fee for admission with the Office of Graduate and Professional Admissions. Successful completion of non-degree coursework does not guarantee later admission to a degree program.

NOTE, not all education courses can be taken on a non-degree basis. Please contact the Office of Student and Academic Services for information and assistance:

Email: academic.services@gse.rutgers.edu

Non-degree study is not available to international students.

Financial Aid (GSE)

FINANCIAL AID

A majority of full-time graduate students at the university receive some financial aid. The amount of support each student receives depends, in part, upon the availability of funds. The level of support often is dependent upon the specific graduate program and the student's degree status. Aid ranges from loans to grants covering tuition charges to awards sufficient to pay all educational and most living expenses. The sources of support include university funds, federal and state government funds, corporate and individual bequests to the university, and grants from educational and scientific foundations.

Merit-Based Financial Aid (GSE)

Merit-Based Financial Aid

Assistantships, Fellowships, Grants, and Scholarships

All applicants are considered automatically for university-based assistantships, fellowships, and scholarships. Inquiries should be addressed to the director of the graduate program to which the student has applied. Students are encouraged to apply for externally funded fellowships as well.

Assistantships Awarded by the University. Graduate students in assistantship positions have the opportunity of working with Graduate School of Education (GSE) faculty and staff in a variety of research and professional projects, teaching, or assisting in courses. Assistantships provide full tuition remission and an annual stipend. Please see your academic adviser or your departmental office for information on assistantship opportunities.

Bevier and University Fellowships. Graduates of Rutgers, The State University of New Jersey, and post qualifying students already at the university may apply for Louis Bevier Fellowships and University Fellowships. Funds provided by the state and by the Louis Bevier Memorial Fund, respectively, support a limited number of fellowships that carry stipends of $13,000. The Louis Bevier Memorial Fund was established through the generosity of Dr. and Mrs. Ralph G. Wright in honor of the late Dean Bevier. For further information, go to SGS Fellowships and Grants.

Ralph Johnson Bunche Distinguished Graduate Award. Established in 1979, this distinguished graduate award is named after Ralph Johnson Bunche, the African-American statesman, Nobel Peace laureate, and recipient of an honorary doctor of laws from Rutgers in 1949. Bunche fellows are chosen by a university wide selection committee. Bunche fellowships provide $15,000 plus tuition remission for as many as two years to exceptional, new, full-time students with backgrounds of substantial educational or social disadvantage.

Diversity Advancement Program in Teaching and Research. Through referral from graduate program directors, the Diversity Advancement Program identifies individuals whose ethnicity, gender, or other characteristics make them unusual among students in their respective fields. Fellowships from various sources are allocated to encourage the enrollment of these students and thus diversify the graduate community. The fellowships awarded are comparable to those awarded through the schools and colleges.

Graduate School of Education Aid Programs

The Graduate School of Education (GSE) has funds for student financial aid that generally range from $500 to $5,000 per year. To be considered for a scholarship award, students of the GSE MUST submit a scholarship application. Scholarship applications and detailed descriptions of awards are available on the Graduate School of Education website. The deadline for applications for these funds is March 8. Decisions are made by June 30 and all awards are applied to the fall semester. In order to be considered for the awards that stipulate financial need as one of the criteria, a current FAFSA form must be filed.

Specific awards include Arlotto Family Math Teachers Endowed Fellowship, Charles Sumner Crow Endowed Scholarship, Clarence E. Partch Memorial Fellowship, Dr. Evelyn Morrison Endowed Scholarship, Edna Hartzel Laird Endowed Scholarship, Edward Fry Endowed Graduate Fellowship, Ensign T. and Vivian R. Slayton Endowed Scholarship, Graduate School of Education Alumni Association Endowed Scholarship, Graduate School of Education Alumni and Friends Scholarship, Graduate/Law School, Hand to Hand Scholarship, Jerry P. Becker Annual Fellowship in Mathematics Education, Koffler Family Endowed Fellowship, Lesley Mandel Morrow, PhD. Endowed Scholarship, Madelyn McCarthy Miller Memorial Scholarship, Dr. Marilyn E. Gonyo Endowed Scholarship, Martin Luther King Jr. Scholarship, Norma Nevola Sutera Memorial Endowed Scholarship, Ruth and Stanley Kosensky Fellowship, Samuel D. Proctor Scholarship, Samuel D. Proctor Fellowship, and Students Supporting Students Scholarships. (Scholarship fund availability is subject to change without notice.)

Other Fellowships and Scholarships. Each department continually seeks funds from outside agencies to help defray student expenses. Inquiries regarding the availability of such monies may be made through graduate program offices and advisers.

Student Services (GSE)

STUDENT SERVICES

Office of Student and Academic Services

Student Associations

Student and School Government

Global Programs

Local Partnerships

Office of Student and Academic Services (GSE)

OFFICE OF STUDENT AND ACADEMIC SERVICES

Senior Assistant Dean for Enrollment Management and Academic Affairs: Amy H. Wollock, J.D., M.B.A., MA

Assistant Dean for Advisement: Matthew J. Winkler, Ed.D.

Student Counselor: Ken Tufo Jr., M.Ed.

Senior Student Program Coordinator: Marie Pavelchak

Administrative Coordinator: Trevor Johnson

Program Coordinator: Kerriann Mattaliano

The Office of Student and Academic Services (OSAS) is overseen by the Senior Assistant Dean for Enrollment Management and Academic Affairs and functions as the primary student contact for activities and information concerning:

- Program requirements
- Status of applications to the Graduate School of Education
- Academic affairs (dissertation guidelines, adding/dropping courses)
- Student life concerns (accessibility, discrimination, harassment)
- Financial aid
- Graduation requirements and dates
- Appeals (applications, grades)
- Student grievances

Student Associations (GSE)

OFFICE OF GRADUATE STUDENT LIFE, DIVISION OF STUDENT AFFAIRS

The Office of Graduate Student Life works in partnership with units across the university to enhance the educational experience and quality of life for all graduate and professional students at Rutgers-New Brunswick. The Office of Graduate Student Life seeks to cultivate a vibrant graduate student experience by fostering community, connection, and wellness through graduate focused programming and events, connecting student with university services and resources, providing assistance through advocacy in resolving non-academic issues, and a weekly newsletter (the Graduate Student Life Weekly Digest).
To contact the Office of Graduate Student Life, email gradstudentlife@echo.rutgers.edu or stop by our office located in the Graduate Student Lounge in the College Avenue Student Center!

Office of Graduate Student Life
Email: gradstudentlife@echo.rutgers.edu
College Ave Student Center - Graduate Student Lounge
126 College Ave
New Brunswick, NJ 08901
Please visit the website.
Instagram: @RUgradstudentlife
Subscribe to the Graduate Student Life Weekly Digest

Ghada Endick, Assistant Dean for Graduate Student Life
Email: gendick@echo.rutgers.edu

Student Associations (GSE)

Graduate Student Association

Graduate Student Association

The Graduate Student Association (GSA), of which all graduate students are automatically members, sponsors a variety of social and cultural activities for graduate students and represents their interests to the university through its legislative body. The GSA provides free legal advice to students, and it sponsors academic programs, films, mixers, trips to New York, and community action programs.

Every graduate student, full time or part time, in any of the Rutgers University-New Brunswick graduate and professional schools automatically becomes a member of the GSA. A president, vice president, treasurer, and secretary are elected at large. The GSA's main legislative body is its Council, which meets once a month. Every graduate program and department may elect one representative for every 40 students enrolled; schools not organized into departments elect their representatives at large, one for every 40 students enrolled. (Departments with less than 40 students also are allowed one elected representative.) If you are interested in being a department representative, check with your departmental organization or the GSA office. The GSA offices are located in the Graduate Student Lounge (GSL) in the Rutgers Student Center on College Avenue in New Brunswick and may be contacted at 848-932-6995.

Graduate student lounges, located in the Rutgers Student Center, Busch Student Center, and Douglass Student Center, are primarily for the use of graduate students and the functions sponsored by and for graduate students. They provide a comfortable atmosphere for socializing, lounging, and studying.

Student and School Government (GSE)

STUDENT AND SCHOOL GOVERNMENT

The Graduate School of Education provides students with a variety of opportunities to participate in governance through membership on committees, in the University Senate, and through attendance at faculty meetings.

Student and School Government (GSE)

Student Affairs Committee

Student Affairs Committee

The GSE Student Affairs Committee (GSAC) is a student-run organization open to all graduate students at the Rutgers Graduate School of Education (GSE). The purpose of GSAC is to enrich the social, cultural, and academic climate of the Rutgers GSE through on-going sponsorship of programs and events.

Global Programs (GSE)

GLOBAL PROGRAMS

Given the importance of fostering an educational perspective that understands the intersections among local, national, and global boundaries, Graduate School of Education (GSE) global efforts facilitate the integration of academic content and exchange between GSE faculty and students, educators, and learners from schools and universities abroad. These experiences provide the framework for ethical cooperation and joint ventures in research, instructional collaboration, cultural immersion, and community engagement. We are committed to educating students for responsible global citizenship in ways that both deepen their learning and have a transformative impact on local and global communities.

Study Programs outside the United States

GSE faculty and staff are committed to providing opportunities for students and educators to experience cultures and educational systems within and outside of New Jersey classrooms. Educators and graduate students participate in workshops, classes, and seminars with educational experts and engage in hands-on classroom and community-service activities in diverse communities abroad. Participants gain new perspectives and develop curricular innovations and interventions that are brought back for dissemination in their local communities.

South Africa Initiative

Launched in the fall of 2001, the Rutgers Graduate School of Education's South Africa Initiative (SAI) provides experiences for students and educators to increase their cultural awareness, knowledge, and empathy and to better understand their cultural identity while observing and examining the sociopolitical realities of South African communities and schools. The SAI vision is to develop a true exchange of talent and expertise via in-person contact and through distance-education technology, where students and adult learners from the United States and South Africa receive access to knowledge, support, and resources that are critical to cultural understanding and the improvement of teaching and learning.

Rutgers and non-Rutgers students, alumni, and professionals in all fields may enroll in a 3-credit hybrid course designed to provide a cultural lens for exploring race and diversity within a sociopolitical context abroad. The course culminates with two weeks of cultural engagement and service learning with schools and social empowerment projects in Cape Town and Johannesburg.

For more information or to apply visit Summer: Rutgers-Education, Culture and Change in South Africa.

Community-Engaged Language Learning in Yucatan

Graduate School of Education students have the opportunity to join a program focused on community-engaged education and language learning in Mérida, Yucatan, during the winter break. Activities include collaborative opportunities with Mexican university students at the Universidad Autónoma de Yucatán and students in Mexican K-12 classrooms in urban and rural settings. Participants have opportunities to learn from the rich culture of Mexico through exposure to the Mayan culture, colonial influences and contemporary life in Mérida, while developing their intercultural competence and knowledge, skills, and dispositions to practice culturally relevant pedagogy.

Local Partnerships (GSE)

LOCAL PARTNERSHIPS

All Stars Partners with Rutgers GSE

Rutgers Graduate School of Education (GSE) is partnering with the All Stars Project Inc. to enhance research and initiatives dedicated to after-school programing. For the past 30 years, All Stars has opened after-school developmental programs for youth living in urban areas across the country. Now, with the help of the GSE, All Stars will work to establish a professional field of developmental after-school programs and promote research in that field as a cornerstone of a new innovative approach to addressing poverty and youth development issues in urban communities throughout the United States. Learn more by contacting Carrie Lobman at carrie.lobman@gse.rutgers.edu.

The Conversation Tree: Community-Based Language Partnerships

The Conversation Tree Program is a Rutgers Graduate School of Education language-focused, community-engaged program. Through partnerships with several community-based organizations, the Conversation Tree provides opportunities for adult learners to practice English, Spanish, Chinese, and other languages in informal Conversation Café settings. The program offers members of the local community and Rutgers students opportunities to expand their linguistic, cultural and intercultural competence through interactions, guided reflection. The Conversation Tree Program offers classes at Rutgers to prepare students as conversation facilitators, Conversation caf é in the community where people new to a language can practice the language in meaningful ways, and professional development for those wishing to implement a similar program. Learn more by contacting Mary Curran at mary.curran@gse.rutgers.edu.

Academic Policies and Procedures (GSE)

ACADEMIC POLICIES AND PROCEDURES

Note: See the **University Policies and Procedures** section in the Rutgers Main catalog for university-wide academic policies and procedures.

General Degree Regulations

Registration and Course Information

Advising Procedures

Class Schedules and Hours

Grades and Records

Scholastic Standing

Academic Standing

Special Policies Governing the Graduate School of Education's Initial Teacher Certification Programs

General Degree Regulations (GSE)

GENERAL DEGREE REGULATIONS

Full-time graduate status is a minimum of 9 credits for the fall and spring semesters. Full-time graduate status is a minimum of 4.5 credits for the Summer Session. All credit amounts are considered full time for the Winter Session. Students seeking to take more than 12 credits require the approval of their adviser, department chair, and associate dean.

The policy of the Graduate School of Education is that credit for a course may not be applied toward both of two degrees pursued simultaneously at Rutgers.

The requirements for degrees, examinations, and related program requirements are formulated by the faculty in accordance with its best judgment and are intended to provide the strongest possible professional preparation for students.

Modifications to academic regulations may be necessary from time to time. New regulations supersede old regulations.

Registration and Course Information (GSE)

REGISTRATION AND COURSE INFORMATION

Formal admission to the Graduate School of Education and payment (or arrangement with the cashier regarding payment) of tuition and fees are a part of the registration process. Registration is a prerequisite for class attendance. All students who complete registration on time receive registration instructions by mail for the following semester; those who take part in registration receive term bills for the following semester. All students, regardless of method of payment, must make contact with the cashier each semester or their registration will be canceled. Students who do not receive instructions by March 15 for the fall semester and by October 15 for the spring semester should contact the Office of Student and Academic Services. Newly admitted students receive complete registration instructions at the time of their admission.

Web-Based Registration

Web-Based Registration

The registrar maintains a website. Students may link from here to a web registration system during announced periods, as described at the registrar's website. This website also contains information regarding residency, veterans' benefits, security and confidentiality of records, graduation, student ID cards, calendars, change of address, enrollment certification requests, and transcripts. Students may view the schedule of classes with maps to classroom locations, and students may view their transcripts and current registrations.

Registration and Course Information (GSE)

Continuous Registration

Continuous Registration

All students in degree programs must maintain status in the school by registering each fall and spring semester in coursework, research, dissertation study, or Matriculation Continued. Students who fail to maintain continuous registration in one of these areas must apply for reinstatement if they are to continue in good standing. Such students are charged an amount at least equal to the cost of registering for Matriculation Continued for each semester in which they failed to register. Matriculation Continued registration is available only to students not present on campus and not using faculty time or university research facilities.

Registration and Course Information (GSE)

Late Registration

Late Registration

Students may register late only during the first week of each semester. A student who registers late must do so in person at the Office of the University Registrar during regular office hours and must be prepared to pay all charges at that time, including the late registration fee.

Registration and Course Information (GSE)

Summer Registration

Summer Registration

The Graduate School of Education offers courses in the day and evening during Summer Session. These courses are supplemented by short-term institutes and workshops designed specifically for school administrators, guidance personnel, teachers, prospective teachers, and people otherwise affiliated with school systems. Full information is contained at the Summer Session website.

The requirement that degree students must remain in continuous registration from the time they are admitted until their degrees are earned applies to the regular academic year only, not to Summer Session.

Registration and Course Information (GSE)

Change of Course

Change of Course

Courses may not be added after the ninth day of the semester. Courses dropped after the seventh day of the semester will incur a W grade. No refund will be granted for a course dropped after the seventh day of the semester. A student who stops attending a class and fails to give written notification to the registrar will receive a failing grade in that course. The date on which the registrar receives notice from the student governs the academic and financial consequences of dropping a course. No course may be dropped after the 12th week of the semester.

Registration and Course Information (GSE)

Withdrawal

Withdrawal

A student who wishes to withdraw from all courses does so by submitting a written notice to the registrar, or by completing a withdrawal form in person at the registrar's office. A student who leaves the school without officially withdrawing in this manner will receive a failing grade in each course. The date on which the registrar receives the written notice governs the academic and financial consequences of withdrawal. The privilege of official withdrawal is not granted after the 12th week of classes; students who leave the school after the 12th week of classes are considered still officially enrolled and will receive final grades for the semester.

Please note that notification to the instructor, adviser, or school does not fulfill the student's obligation to communicate directly and in writing with the registrar in all matters pertaining to changes in registration and withdrawal.

Registration and Course Information (GSE)

Intercollege Registration

Intercollege Registration

A student in the Graduate School of Education may register for a course offered by another division of the university, with his or her adviser's approval. Other approvals may be required.

It is not necessary to seek admission to another division of the university to take a course as part of the student's Graduate School of Education degree program. Students registering for courses in the Rutgers Biomedical and Health Sciences programs, the New Brunswick Theological Seminary, or Princeton University also must complete appropriate forms available at the Office of the University Registrar, New Brunswick.

Registration and Course Information (GSE)

Multiple School Registration

Multiple School Registration

It is the policy of the university that a student may not be registered in more than one unit of the university simultaneously. Students wishing to take courses in more than one unit in the same semester (or wishing to take courses in units in which they are not enrolled) may accomplish this through intercollege registration.

When, through multiple applications, a student is offered admission to more than one unit of the university, the student may register in only one of them. When a student has been admitted to a graduate and undergraduate unit, the registration will be in the graduate unit.

This policy is in no way intended to abridge a student's freedom to pursue two degrees in two units simultaneously. Such students must make special arrangements to keep both units informed of their academic progress, since they will be registered in only one unit.

Registration and Course Information (GSE)

Exchange Programs

Exchange Programs

Rutgers-Princeton Cooperative Exchange Program

Rutgers and Princeton universities have been engaged in an exchange program since 1964. The program is informal in that admission to and registration at the host institution are not required. No funds are exchanged between the two institutions; the student pays tuition only at the home institution. The policies and procedures related to this program are that (1) participants must be enrolled in degree programs, (2) the number of courses a student may take per semester is limited, and (3) the course must be part of the student's degree program and unavailable at the home institution. To participate, a Rutgers student must register for 15:001:816 Princeton Exchange (BA) (normally 3 credits) and have the forms (obtained from the Rutgers graduate registrar) signed by his or her adviser, dean, and Princeton course instructor. The form is then submitted to the dean of the Graduate School, Princeton University. Princeton grades are assigned and are recorded on the student's record via the above form.

New Brunswick Theological Seminary and for Courses Offered through the Schools of Rutgers Biomedical and Health Sciences

Cross-registration is available. Forms are available at the Office of the University Registrar, New Brunswick.

Registration and Course Information (GSE)

Graduate Enrollment in Undergraduate Courses

Graduate Enrollment in Undergraduate Courses

Any course numbered 500 or above is designed for graduate students and normally carries credit toward one of the graduate degrees. Certain advanced undergraduate courses numbered in the 300s and 400s also may be approved for a given graduate student, either as a regular part of his or her graduate program or as a means of remedying a deficiency in preparation. When a graduate student is permitted or requested to enroll in a course numbered below 500, explicit approval by the student's adviser is required, and the credit prefix G, N, or E appears on the transcript. Graduate School of Education students are charged graduate tuition for all courses.

Registration and Course Information (GSE)

Official Auditing of Courses

Official Auditing of Courses

Students who wish to enroll in a graduate or a 100- through 400-level undergraduate course without receiving credit may do so if they secure the advance approval of their advisers. At registration, indicate "not-for-credit" status by placing the symbol N in the appropriate column on the registration form. Students must pay the normal graduate tuition fee for the course and fulfill the same requirements during the semester as all other students, including the execution of any written assignments. Students must perform all the assigned work; however, they may not take the final examination. A grade of S (satisfactory) or U (unsatisfactory) is assigned. The course and letter grade are included on each student's record, but no credit toward a degree is given. See also Grades and Records later in this chapter for information regarding credit prefixes.

Registration and Course Information (GSE)

Nonmatriculated Students

Nonmatriculated Students

Once admitted as a nonmatriculated student, a student may register as nonmatriculated for up to five years without completing any readmission process. After the fifth year, he or she must reapply for nonmatriculated status.

Registration and Course Information (GSE)

Full- and Part-Time Students

Full- and Part-Time Students

For statistical, billing, and veteran certification purposes, a full-time student is defined as one who is taking 9 or more graduate credits. Those taking fewer than 9 credits are part-time students. All courses, including those taken "not-for-credit," are counted in computing the credits taken, except for veteran (VA) certification.

Registration and Course Information (GSE)

Teaching Assistants and Graduate Assistants

Teaching Assistants and Graduate Assistants

Teaching assistants and graduate assistants are required to register for at least 3 credits in coursework, but not more than 12 credits of coursework per semester. Both teaching assistants and graduate assistants also must register for 6 E credits per semester. Graduate assistants register in (subject number):866, and teaching assistants register in (subject number):877.

Advising Procedures (GSE)

ADVISING PROCEDURES

Each student is assigned a faculty adviser, to whom questions regarding academic program, instruction, and related concerns should be addressed. If and when a student believes that concerns have not been adequately addressed with the adviser, a conference with the department chair is the appropriate next step.

Class Schedules and Hours (GSE)

CLASS SCHEDULES AND HOURS

Starting and closing dates for each semester, scheduled holidays, and other important scheduling information can be found in the academic calendar. All class periods are 160 minutes in length, meeting once a week, unless otherwise specified. There will be 15 weeks of instructional activity for each course.

Class Schedules and Hours (GSE)

Attendance

Attendance

All instructors are required to maintain an accurate record of attendance in each of their classes or sections. Students are expected to be present at each meeting of their classes. At the instructor's discretion, exceptions to this rule may be made for illness or other circumstances. University examinations shall not be scheduled on Saturdays except in those courses that regularly meet on Saturday.

Class Schedules and Hours (GSE)

Absence Due to Religious Observance

Absence Due to Religious Observance

It is the policy of the university to excuse without penalty students who are absent because of religious observances and to allow the makeup of work missed because of such absences. Examinations and special, required, out-of-class activities ordinarily will not be scheduled on those days when such students refrain from participating in secular activities. Absences for reasons of religious obligation will not be counted for reporting purposes. A student absent from an examination because of required religious observance will be given an opportunity to make up the examination without penalty.

Cancellation of Classes

Cancellation of Classes

It is the general policy of the university not to cancel classes because of inclement weather. However, because of the occasional hazards of night driving in the winter, exceptions may be made for evening classes; and under exceptionally hazardous conditions, exceptions may be made for daytime classes.

Announcements concerning campus status will be made over the following stations: WRNJ (1510 AM), WCTC (1450 AM), WCBS (880 AM), WINS (1010 AM), WKXW (101.5 FM), WRSU (88.7 FM), and NEWS12 (cable).

Additionally, information will be available through RU-tv's Rutgers Information Channel 3; the campus operating status page; and the Rutgers Information and Referral Center, 732-445-info.

Arrangements for makeup work are announced by individual instructors.

Grades and Records (GSE)

GRADES AND RECORDS

Students in the Graduate School of Education are graded in each course at the end of each semester as follows:

Grade	Definition	Numerical Equivalent
A	Outstanding	4.0
B+		3.5
B	Good	3.0
C+		2.5
C	Satisfactory	2.0
F	Failing	0.0

Grades and Records (GSE)

Other Grade Symbols

Other Grade Symbols

IN (Incomplete). May be assigned at the discretion of the instructor who believes that an extension of time is warranted for a student whose work is incomplete at the end of the semester. Incomplete work may be made up, and a change of grade may be authorized by the instructor for up to two years after the IN grade was assigned. After two years, an IN is automatically changed to No Credit.

NG (No Grade Given). Assigned only by the registrar when no grade is assigned on the final grade roster by the faculty member. The NG will have no immediate effect on a student's GPA; however, if the situation is not resolved within the following semester, the NG will convert to an F, and the GPA will be recalculated accordingly.

P/NC (Pass/No Credit). Any student in the Graduate School of Education may elect, at the time of each registration, to be graded in any Graduate School of Education course on a Pass/No Credit basis. The choice of grading system typically is determined at the time of registration. The final designation of choice must be made, in consultation with the instructor, no later than the sixth week of the semester. Under this grading system, Pass is equivalent to an A, B+, B, C+, or C; No Credit is equivalent to F.

Dissertation study/research in education is graded Pass/No Credit, and it is not necessary to register with a P.

S/U (Satisfactory/Unsatisfactory). Assigned when a course is taken on a noncredit basis.

TZ (Temporarily Not Graded). The TZ grade is assigned to students who never attended classes for a course, stopped attending and did not officially withdraw, or were not graded by instructors.

Students are responsible for contacting the registrar to correct registration errors that have resulted in TZ grades and, when necessary, for contacting instructors to arrange final grades.

TZ grades remaining on records convert automatically to failures, without notification to students, for the fall semester and Winter Session on May 1 and for the spring semester and Summer Session on December 1.

W (Withdrawal). Withdrawn without evaluation; used when a student officially drops a course or withdraws during the first 12 weeks of the semester.

Grades and Records (GSE)

Credit Prefixes

Credit Prefixes

The number of credits appearing on course records and registration forms may be preceded by a letter prefix as follows:

E. Course excluded from credit toward a degree. The student must complete all coursework, including the final exam. Automatically assigned to undergraduate courses not prefixed by G or N.

G. A 300- or 400-level undergraduate course for which credit has been approved toward the graduate degree currently being pursued.

N. Course is taken "not-for-credit"; examination not required; final grade of S (satisfactory) or U (unsatisfactory) assigned.

Grades and Records (GSE)

Transcripts

Transcripts

Visit the registrar's website for information on requesting transcripts online. Requests for official transcripts can also be addressed to Office of the Registrar, Department of Records and Transcripts, Rutgers, The State University of New Jersey 620 George Street Room 140, New Brunswick, NJ 08901. The request should indicate that the student was enrolled in the Graduate School of Education, identify the dates of attendance, and give any other relevant information. It must be received at least 10 working days prior to the date the transcript is desired. Forms for making the request may be obtained from the registrar. There is no fee for providing transcripts.

Grades and Records (GSE)

Holds

Holds

The privileges of registration, advance registration, receipt of a diploma at commencement, and receipt of transcripts of record are barred to students having outstanding obligations to the university. Obligations may take the form of unpaid monies, unreturned or damaged books and equipment, parking fines, other charges for which a student may become legally indebted to the university, and failure to comply with disciplinary sanctions or administrative actions.

University departments and offices may place "holds" on registration, diplomas, and transcripts for any students having an outstanding obligation.

Scholastic Standing (GSE)

SCHOLASTIC STANDING

Scholastic Standing: Ed.D.

Students must maintain a cumulative GPA of at least 3.25 in the doctoral coursework and dissertation research courses.

Scholastic Standing: Ed.M.

A student who receives more than three grades of C, F, or NC is performing unsatisfactorily. The student will be so informed and will be dismissed from the school unless the student's department formally recommends otherwise. No more than 9 credits offered in partial fulfillment of degree requirements shall bear the grade of C.

A department may dismiss, with the concurrence of the Committee on Admissions and Scholastic Standing, any academically deficient student, provided that the student is kept fully informed of the department`s dissatisfaction with his or her academic performance and that the departmental decision to dismiss is careful and deliberate.

Concerning Non-degree Status

Successful completion of courses taken as a non-degree student does not mean that a student will be admitted to a degree program. Non-degree students may take as many courses as they wish, but only 12 credits, and with the approval of the faculty, these credits may be transferred in the fulfillment of degree requirements in most programs. Application of those 12 credits is at the discretion of the academic department.

Students should discuss academic matters with the instructor involved with the issue. Should the problem remain unresolved, the student should approach the department chair. The department chair may decide the issue or refer the student to the associate dean. The associate dean may decide the issue or refer the matter to the Graduate School of Education Committee on Admissions and Scholastic Standing.

Academic Standing (GSE)

ACADEMIC STANDING

Termination of Studies

Students may be required to terminate their graduate studies and withdraw from the Graduate School of Education if they fail to maintain satisfactory academic or professional standards in any phase of their graduate programs. A student is deemed to not be making satisfactory progress when she or he:

- has not satisfied any condition imposed at the time of admission;
- receives 6 credits graded C, F, or NC;
- does not adhere to the schedule of time limits for degrees (see the Degree Requirements chapter); or

- violates the professional standards of her or his field (e.g., New Jersey Professional Teaching Standards Interstate School Leaders Licensure Consortium Standards, American School Counselor Association, or American Counseling Association).

Violation of the university's academic integrity policy is another reason for being terminated from graduate studies, however, the disposition of such violations is covered by the university's academic integrity policy.

Programs are expected to conduct annual reviews of student performance. When a student is judged not to be making satisfactory progress, the program notifies the student in writing of its concern about the student's performance. Such a warning specifies the source of the concern, the applicable program or Graduate School of Education rules, and the proposed action. Warnings specify when and on what basis a recommendation for academic dismissal will be considered by the faculty. A probationary period of one semester is normal. (In cases of extremely poor performance, the program faculty may determine that a probationary period is not justified and may move directly to a recommendation for dismissal.)

Following the probationary period, a student who fails to meet the provisions of the warning is considered for dismissal by the faculty. A program faculty vote is recorded on any motion to recommend dismissal, and a letter is written to the student stating the faculty action and its rationale.

When termination is recommended, the department chair or, for doctor of education (Ed.D.) students, the director of the Ed.D. program communicates to the dean of the Graduate School of Education in writing the specific reasons involved, all warnings communicated to the student, the faculty procedures and actions leading to the recommendation, the recorded faculty vote for dismissal, and the mailing address of the student. The dean of the Graduate School of Education will write the actual letter of termination to the student.

International students are required to make normal progress toward their degree in order to maintain their legal status. International students facing serious academic problems that could lead to probation and/or termination are urged to consult with the International Student and Scholar Services as soon as they are aware of such problems.

Due Process

Students are entitled to fairness in the way their academic performances are assessed. Each program has a statement that spells out how a student's academic progress is monitored and how comprehensive, qualifying, and final examinations are graded. Each program also has a procedure for academic appeals. The Graduate School of Education provides further opportunity for appeal for students who wish to proceed beyond the program level (see the Student Academic Appeals section below).

All students in the Graduate School of Education are entitled to expect that regularly scheduled examinations will be graded, and grades will be announced within two weeks of completion of those examinations. If a student fails an examination, he or she is entitled to an explanation of the reasons for that decision.

Student Academic Appeals

Whenever possible, student academic appeals are handled within the program. The student should take the issue to the department chair or program director for review and mediation. The chair or director consults with all parties and proposes a resolution. If this is unsuccessful, the matter is referred to the appropriate Graduate School of Education Committee on Admissions and Scholastic Standing as designated in Graduate School of Education bylaws.

The Committee on Admissions and Scholastic Standing hears appeals that have not been resolved by the department chair or program director. The student must make his or her case in writing. A written response to the student's statement will be solicited from the chair or director of the department or program whose action is being appealed. The committee normally bases its judgment on written submissions only. Should the committee deem it necessary, it may call upon the student and/or a faculty member (or members) for written or oral responses to questions raised by the committee.

A student may request an appearance before the committee. If they believe an appearance is warranted by unusual circumstances, the committee members may allow the student to appear before them. They may, however, limit the amount of time granted, which normally will not exceed 30 minutes. The committee reports its recommendations to the dean of the Graduate School of Education, whose decision is final.

Should the student decide to appeal to the dean, such a request must be made in writing within 30 days of notification of the decision of the Committee on Admissions and Scholastic Standing. Each case will be reviewed by a representative of the dean of the Graduate School of Education whose decision is final.

Student Complaints about Grades

Students who wish to file a complaint about a course grade or a grade received for a particular piece of work in a course should first attempt to resolve the matter through discussion with the instructor. If the issue cannot be resolved satisfactorily between the student and instructor, the student may specify in writing the basis for the complaint and request a review by the chair of the department offering the course or, for Ed.D. students, the director of the Ed.D. program, as appropriate. A written complaint about a grade for work completed while the course is in progress must be submitted to the chair or director no later than two weeks after notification of the grade. A student must submit a written complaint about a final course grade no later than four weeks after the postmarked date of the official notification of grades.

A student who wishes to appeal the decision of the department or program must do so in writing to the Office of the Dean. Written notification of the action taken by the chair, the Ed.D. program director, or the dean is sent to the student within six weeks of filing an appeal, excluding weeks in which classes are not in regular session.

Special Policies Governing the Graduate School of Education's Initial Teacher Certification Programs (GSE)

SPECIAL POLICIES GOVERNING THE GRADUATE SCHOOL OF EDUCATION'S INITIAL TEACHER CERTIFICATION PROGRAMS

Special Policies Governing the Graduate School of Education's Initial Teacher Certification Programs (GSE)

Program Completion Requirements

Program Completion Requirements

Students must have:

- earned a bachelor's degree with an appropriate major for area of certification;
- submitted a portfolio/writing requirement or passed a comprehensive examination if required by their program;
- satisfied the general education distribution;
- completed 60 credits in liberal arts (these credits can include courses in the major but cannot include courses in professional education and/or other vocationally oriented coursework [accounting, engineering, etc.]); School 05 (Graduate School of Education undergraduate) or School 15 (Graduate School of Education graduate) courses may not be included; (NOTE: Students admitted prior to February 1, 2017, are required to complete 90 liberal arts credits);
- satisfied the physiology and hygiene requirement (administered by the Office of Student and Academic Services [OSAS]) during the final spring semester);
- achieved a minimum cumulative grade-point average of 3.0 in the master's degree; (NOTE: Students admitted prior to February 1, 2017, are required to achieve a minimum GPA of 2.75);
- submitted a portfolio of exemplary work;
- satisfied the New Jersey State Department of Education requirement for training in the prevention of harassment, intimidation, and bullying (HIB); and
- satisfied all requirements listed on the program control sheet.

NOTE: Courses used to satisfy the general education distribution and 60 credits in liberal arts may be satisfied at Rutgers University or at another accredited college or university (including community colleges). The credits do NOT need to be transferred to your Rutgers transcript, but you must submit an original transcript to the OSAS once a grade is posted.

Professional Portfolio

In addition to an award of a master's degree, the GSE five-year programs culminate in a recommendation to the New Jersey Department of Education for an appropriate teacher license(s). It is the responsibility of the GSE program faculty to assure that students have the knowledge, skills, and dispositions worthy of that license. In addition to course grades, GPAs, and other traditional measures of student quality, the GSE faculty will utilize an electronic portfolio of student work as a primary assessment tool. The contents of the portfolios will be generated by students throughout the program and will be graded by faculty members using rubrics aligned to the New Jersey Professional Standards for Teachers and the Charlotte Danielson Framework for Teaching. Portfolio items will be housed within a secure online management tool.

Earning Credit

Earning Credit

Placement Tests

AP and CLEP tests can be used to satisfy the liberal arts total credit requirement and the general education distribution requirement as long as college credits have been awarded for the work and these credits are reflected on an official undergraduate transcript.

Transfer Courses

Students may count courses taken at a community college toward satisfying GSE general education requirements for the following areas: arts, humanities, math, science, and foreign languages, and toward the required 90 credits of liberal arts.

In cases where students are required to take specific courses that are offered at community colleges (830:101 or 300:200), students need to prove equivalency through NJ Transfer. No other GSE requirements can be satisfied with community college courses except in the case of social studies core curriculum content requirements.

Pass/No Credit Option

Graduate students may not take undergraduate liberal arts courses on a pass/no credit basis to satisfy the general education distribution requirement. However, these courses may be taken with an E-prefix. This prefix prevents the grade for the course from being used in the computation of the grade-point average.

An undergraduate student may take liberal arts courses pass/no credit to satisfy the general education distribution requirement providing approval to do so has been given by the student's undergraduate school.

Graduate Enrollment in Undergraduate Courses

Any course numbered 500 or above is designed for graduate students and normally carries credit toward one of the graduate degrees. Certain advanced undergraduate courses numbered in the 300s and 400s may also be approved for a given graduate student. In order to receive graduate credit for an undergraduate course, students must get explicit written approval from their adviser and **must register for the 300- or 400-level course with a G-prefix.**

The graduate portion (fifth year) of your program is minimally 30 credits; graduate electives must be taken AFTER you earn your B.A./B.S. degree as they are designed to be part of the fifth/graduate year.

Advancement to Graduate Status

Advancement to Graduate Status

Students in the five-year teacher preparation program may only proceed to the graduate (fifth year) portion of the program if all of the following conditions are met:

- A bachelor's degree has been completed with an appropriate major and a cumulative GPA of 2.75 or better.
- Satisfactory academic work has been demonstrated in every one of the required education courses.
- A grade of C or better has been earned in every education course.
- No more than one grade of C has been earned as a final grade in education coursework.
- Any education coursework with an original grade of D or F has been successfully retaken and a grade of A, B, or C earned.
- A program-specific faculty committee has reviewed the student's record at the end of the fourth year and recommended continuation.

Exceptions to these rules may be granted only by GSE faculty in consultation with the associate dean of teacher education.

Special Policies Governing the Graduate School of Education's Initial Teacher Certification Programs (GSE)

Advancement to Clinical Practice Phase III

Advancement to Clinical Practice Phase III

Students in initial teacher preparation programs may only proceed to Clinical Practice Phase III if all of the following conditions are met:

- Satisfactory academic work has been demonstrated in every one of the required education courses.
- A grade of C or better has been earned in every education course.
- No more than one grade of C has been earned as a final grade in education courses.
- Any coursework with an original grade of D or F has been successfully retaken and a grade of A, B, or C earned.
- An appropriate major in content-area coursework has been completed.
- Any additional program-specific requirements have been completed.
- Successful completion of all required licensure exams.
- A program-specific faculty committee has reviewed the student's record and recommended continuation.

Exceptions to these rules may be granted only by the Graduate School of Education associate dean for academic affairs.

Special Policies Governing the Graduate School of Education's Initial Teacher Certification Programs (GSE)

Student Academic Appeals

Student Academic Appeals

Any disciplinary decisions such as removal from the program may be appealed by the student. Whenever possible, student academic appeals are handled within the program. The student should take the issue to the department chair or program director for review and mediation. The chair or director consults with all parties and proposes a resolution. If this is unsuccessful, the matter is referred to the appropriate Graduate School of Education Committee on Admissions and Scholastic Standing as designated in the Graduate School of Education bylaws.

Removal from Clinical Practice

Removal from Clinical Practice

The clinical practice component of the initial teacher preparation program provides students the opportunity to put the skills and knowledge gained in the program into practice in a P-12 setting. It also represents a very public and important partnership between Rutgers and local P-12 districts. The Graduate School of Education (GSE) will make every effort to arrange for a positive, supportive environment for its students. It is also critical, though, that GSE students represent the university and their programs in the best possible light.

Student interns will be expected to adhere to all of the following:

- the host school rules regarding lesson planning, assessment, attendance, professional demeanor, etc.;
- the GSE faculty guidelines and guidance regarding the internship experience;
- the New Jersey Professional Standards for Teachers; and
- the University Code of Student Conduct.

Failure to adhere to any of these sets of expectations, or simple poor performance over a substantial period of time, may result in the student's removal from a clinical placement. Any student so removed may choose to subsequently and voluntarily withdraw from the program or petition the faculty to be allowed to continue in the program under special conditions.

Removal from the Program

Removal from the Program

The Graduate School of Education has an obligation to the citizens of the state of New Jersey to prepare and only recommend for certification caring, competent teachers. In rare circumstances, the faculty identifies a student who does not meet our definition of that standard. In those cases, the student is asked to leave the program. Any of the following violations may cause a student's removal from the program:

- violations of the Rutgers Policy on Academic Integrity

- violations of the University Code of Student Conduct
- concerns raised by partner school personnel regarding conduct or progress in teaching abilities
- inconsistencies with the New Jersey Professional Standards for Teachers
- removal from teaching internship for any of the reasons listed above

Urban Social Justice Focus

Urban Social Justice Focus

GSE Urban and Social Justice Teacher Education Program Statement

The Graduate School of Education's (GSE) teacher education program is designed to develop teachers to be engaged in and committed to excellence, equity, and social justice in their teaching practice. New Jersey is a uniquely diverse and urban state as defined by the following: large numbers of students from historically marginalized linguistic, economic, and cultural backgrounds; high-poverty districts or schools; and population density combined with educational inequality. The GSE teacher education programs aim to develop a diverse generation of teachers prepared according to the New Jersey Professional Standards for Teachers with the skills and dispositions to both teach and advocate for all students, as well as to learn from students and their communities.

Teachers prepared at the GSE will learn to critically analyze the social politics of urban, rural, and suburban schools and use that analysis to advocate for each other, their students, and the families that they serve as they engage in the most effective instructional practices built upon deep knowledge of their students. GSE teacher candidates benefit from working with some of the best education faculty in the world and gain real-world experience by partnering with carefully selected mentor teachers in districts/schools serving economically, racially, ethnically, and linguistically diverse communities in New Jersey. In order to cultivate the unique set of skills for success in our nation's increasingly diverse schools, GSE teacher candidates do their clinical work in school- and community-based placements in urban partner districts that are part of the GSE-Community School Partnership Network (GSE-CSPN).

An urban and social justice teacher education program prepares candidates to:

- develop meaningful understandings of diverse students and their experiences and communities and the social, economic, historical, and political dimensions of urban settings and schools;
- effectively teach diverse students, including those from historically marginalized linguistic, cultural, and economic backgrounds;
- identify and disrupt instances and patterns of discrimination and marginalization and develop their students' critical and active citizenship capacities;
- balance constructivist, student-centered approaches with explicit instruction and scaffolding;
- deeply understand their disciplines, research-based current/best practices in their disciplines, and student learning in their disciplines; and
- be caring, competent, rigorous, and reflective practitioners.

Clinical Component

Clinical Component

All students in the initial teacher preparation program must complete 14 credits of clinical work along with 6 credits of a clinical practice seminar. The clinical component consists of three phases, the initial clinical experience (Clinical Experience Phase 1), and two semesters of clinical practice (Clinical Practice Phase 2 and Phase 3). The clinical practice seminar is taken during the second semester of clinical practice.

For students in the five-year initial teacher preparation program the clinical component is comprised of the following courses:

05:300:201 Introduction to Education Field-Based Lab - Clinical Experience (.5 credits)

05:300:498 Clinical Experience Phase 1 (.5 credits)

05:300:499 Clinical Practice Phase 2 (4 credits)

15:255:535 Clinical Practice Phase 3 (9 credits)

15:255:532 Clinical Practice Phase 3 Seminar (6 credits)

For students in the postbaccalaureate initial teacher preparation program the clinical component is comprised of the following courses:

15:255:530 Clinical Experience Phase 1 (1 credit)

05:300:499 Clinical Practice Phase 2 (4 credits)

15:255:535 Clinical Practice Phase 3 (9 credits)

15:255:532 Clinical Practice Phase 3 Seminar (6 credits)

Degree Requirements (GSE)

DEGREE REQUIREMENTS

Doctor of Education

Ph.D. in Education

Master of Education

Graduation

Doctor of Education (GSE)

DOCTOR OF EDUCATION

The degree of doctor of education (Ed.D.) is conferred in recognition of high attainment in the constructive study of educational problems and upon demonstrated ability to pursue an independent investigation of an educational problem of practice.

The Ed.D. program requirements are described in this section. More specific and additional requirements of particular Ed.D. concentrations can be found on the pages that describe them.

By the time a candidate has completed approximately 15 credits, a program plan should be completed in consultation with the Ed.D. director or concentration coordinator. One copy of the program plan is filed in the Office of Student and Academic Services, one copy is returned to the student.

Program for Students Entering before Summer 2010

PROGRAM FOR STUDENTS ENTERING BEFORE SUMMER 2010

The degree of doctor of education (Ed.D.) is conferred in recognition of high attainment in the constructive study of educational problems and upon demonstrated ability to pursue an independent investigation in some area of education.

The common requirements of all of the Ed.D. programs in the school are described in this section. More specific and additional requirements of particular programs can be found on the pages that describe those programs.

By the time a candidate has completed approximately one-third of the course requirements, a program of study should be completed in consultation with his or her adviser. The adviser will present three copies for review to the department chair. Following acceptance by the chair, one copy of the program is filed in the Office of Student and Academic Services, one copy is returned to the student, and the third copy is retained in the department adviser's file.

Credit Requirements

Students must complete at least 48 credits of coursework, with an additional 24 credits of dissertation research. The minimum of 48 credits of coursework includes:

- At least 9 credits in research methods including courses in two of the following three areas: quantitative foundations (3), qualitative foundations (3), and program evaluation (3). The remaining 3 credits of methodology may be taken within the program area, or as an elective taken outside the program but with the program's approval.

- At least 9 credits distributed among three of these four areas: learning in a content area (3), policy and leadership (3), social and philosophical foundations (3), and psychological foundations (3). These credits will be outside the student's own program.
- At least 30 credits in the area of specialization, according to requirements established by each program. Before dissertation candidacy, students must complete a relevant predissertation project culminating in a written product. Projects will be developed in consultation with a project adviser and in accordance with program guidelines. Students must maintain a cumulative GPA of at least 3.25 in the doctoral coursework and dissertation research courses.

Students who have not completed the dissertation after 24 credits of 700-level research, but are actively working toward that goal, will continue to register for 700-level research courses as recommended by the committee chair. All degree candidates must be registered continuously in the Graduate School of Education in the manner described under Continuous Registration in the Academic Policies and Procedures chapter.

A department may set a higher minimum for any curriculum for which it is responsible and may require any particular student to earn more than the minimum credits specified for his or her curriculum.

Transfer of Credit

Students may petition program faculty to transfer up to 18 credits of coursework taken at an accredited institution to be accepted as meeting any of the course requirements for the doctor of education degree. If a doctoral student is eligible to take work elsewhere for use toward a Graduate School of Education degree, prior approval must be obtained from his or her adviser and department chair before registering at another school.

Time Limitation

A student entering a doctoral program at the Graduate School of Education (GSE) has a total time limit of 10 years from the time of admission to the program to complete all coursework, qualifying examinations, and dissertation work. This time limit is further defined as follows:

1. A student entering a doctoral program at GSE has a time limit of seven years from the time of admission to the program to complete all coursework and qualifying examinations.
2. A student who completes the course requirements and qualifying examinations in seven years has three years to complete his or her dissertation.
3. A student who completes the course requirements and qualifying examinations in less than seven years will have the remaining time from the total allocated time of 10 years to complete his or her dissertation.
4. Any student who fails to complete all requirements (coursework, qualifying examinations, and dissertation) within the allocated 10-year period may, with the written recommendation of the program faculty, be allowed to retake the qualifying examination and, upon passing these examinations, may have three additional years to complete his or her dissertation.

In those cases in which a student is authorized to include credits in his or her degree program for courses taken at Rutgers prior to admission as a degree candidate, the date of the beginning of the coursework to be credited establishes the beginning of the time allowed to complete the degree.

Qualifying Examination

All candidates for the degree of doctor of education are required to take the qualifying examination(s) administered by their program. Doctoral students may not take more than 12 credits in dissertation study or its equivalent prior to the successful completion of the qualifying examination.

The qualifying examination(s) is taken near the completion of the student's coursework. Qualifying examinations are prepared by individual programs. Students should consult program faculty for a written description of the qualifying examination procedures in their program. The student's performance on the examination is graded as "satisfactory" or "unsatisfactory" and reported in writing in those terms to the Office of Student and Academic Services. A grade may be "deferred," but such a grade is changed to "unsatisfactory" if a different evaluation is not reported within one year of the date of examination.

Upon written recommendation of the student's adviser and concurrence of the dean's office, a student who failed to obtain a report of "satisfactory" on either the written or oral examination may repeat the examination only one time. A second examination must be held within one year of the first. After failing the qualifying examination twice, the student is dropped from the program.

The qualifying examination is administered by the department of the student's major field. Arrangements to take the examination must be made with the department.

Dissertation

The dissertation is a scholarly investigation of an educational issue. It may be theoretically oriented with broad implications for the field or grounded in current research and theory with implications directed to policymakers in specific contexts. Specific requirements for the dissertation may vary across program areas. Students should consult program faculty for a description of the dissertation requirements in their program area.

Dissertation Proposal

Committee

A doctoral (Ed.D.) dissertation committee consists of a minimum of three individuals, at least two of whom are Rutgers faculty members. Any full-time faculty or staff member at Rutgers with an earned doctorate and appropriate expertise is eligible to serve as a committee member if recommended by the chair of a dissertation committee. A person with appropriate expertise outside Rutgers may become a member of a specific dissertation committee if recommended in writing by a committee chair and approved by the department chair. A vita for an outside committee member must be provided.

It is the student's responsibility to form a committee that is approved by the dissertation chair. Each dissertation committee is composed so that the following conditions are satisfied:

1. The chair should be a current member of the Graduate School of Education faculty.
2. At least one member of the committee should be affiliated with the program for which the student is fulfilling the Ed.D. requirements.

3. At least one member of the committee should be from outside the student's program area.

Subsequent changes in the composition of a doctoral committee require concurrence among the chair of the committee, the department chair, and the faculty members involved.

The student must accept responsibility for developing an acceptable dissertation proposal in consultation with his or her committee. When the proposal is ready for committee consideration and action, the dissertation committee is formed by the student in consultation with the student's adviser. An open defense is required before the proposal can be given final approval and assigned.

An announcement of the proposal defense, including a one-page abstract, is to be submitted to the Office of Student and Academic Services two weeks prior to the defense date. After the proposal has been successfully defended, two copies of the approved proposal, signed by each committee member, are required to be filed in the Office of Student and Academic Services.

Preparation

Certain requirements must be adhered to during the preparation of dissertations. Specific regulations, such as those pertaining to format and style, must be followed in order to ensure that the dissertation can be accepted by the school for submission to the candidate's doctoral committee and to the university library for filing. The final date for submission of the dissertation and abstract is March 15.

A copy of the final defense draft should be available to the committee at least one month prior to the defense date. Upon completion of the oral defense, the student is required to submit an electronic copy of the dissertation, including the abstract, on the RUetd website. The electronic copy must include the names of the candidate's doctoral committee without signatures. Additional materials required for final submission include one paper copy of the abstract, one copy of the signed title page, the receipted payment form, the ProQuest agreement forms, and survey forms. All of the above forms must be submitted to the Office of Student and Academic Services no later than the announced deadlines for completion of degree requirements.

Dissertation Defense

The oral examination committee consists of the members of the student's dissertation committee, chaired by the chair of the committee, and conducted to provide a thorough and systematic examination of the candidate on the content of the dissertation. Approval of a dissertation requires a unanimous vote of the committee. The chair of the committee reports the result of the examination to the Office of Student and Academic Services. All members of the university community are invited to be present during the dissertation defense.

Dissertation defense are not held during the months of July and August. In exceptional cases, with the unanimous consent of the members of the dissertation committee and the concurrence of the department chair, arrangements may be made to hold an examination during these months.

Publication

After a candidate has been awarded the doctorate, the Graduate School of Education requires that the dissertation be microfilmed. Therefore, the dissertation must be prepared with the same care as if it were to appear in printed form. The abstract, which is to accompany the dissertation and which must not exceed 350 words, will be published in *Dissertation Abstracts*. It also should be submitted ready for publication.

Doctor of Education (GSE)

Program for Students Entering in or subsequent to Summer 2010

PROGRAM FOR STUDENTS ENTERING IN OR SUBSEQUENT TO SUMMER 2010

The Ed.D. degree helps current and future leaders develop the knowledge, skills, and dispositions to solve problems of practice and improve instructional quality. Graduates will learn to be change agents who improve the lives of students and their families and communities. The program is specifically designed for working professionals, providing a sequence of coursework and hands-on leadership experiences along with individualized mentoring.

Students will learn how to be change agents in educational settings by:

- recognizing and valuing multiple perspectives;
- using theory and research to frame, diagnose, and respond to problems of practice;
- developing a professional knowledge base that integrates practical and research knowledge;
- conducting research to guide improvement and inform policy, programs, and practice;
- identifying instances and patterns of discrimination and inequality and advocating for social justice; and
- communicating and collaborating to build partnerships within and across communities.

The Ed.D. is designed with full-time working professionals in mind. The program may be completed in three years plus one summer and features early evening courses. Alternatively, a five-year timeline is possible. Students begin with a cohort of colleagues and are encouraged wherever possible to work with their cohort throughout the program. By the end of the second year, most students will have completed coursework, identified a dissertation topic, and filed a preliminary plan for completing the dissertation--i.e., topic and dissertation committee--with the Office of Student and Academic Services. As close as possible to the beginning of the fall semester of the third year, the student will have completed the dissertation proposal and held a proposal defense. The student will conduct and report on the study during the final year of the program.

Credit Requirements

The Ed.D. is composed of three interrelated program components--the core, a concentration, and a capstone/dissertation experience. Students must complete at least 48 credits of coursework, with an additional 24 credits of dissertation research. The minimum of 48 credits of coursework includes:

1. At least 24 credits in the Ed.D. core, including:

- 6 credits in Educational Leadership
- 6 credits in Learning and Learners
- 6 credits in the Social Context of Education
- 6 credits in Inquiry

2. At least 24 credits in a concentration. The Graduate School of Education offers the following concentrations:

- Design of Learning Contexts
- Education, Culture, and Society
- Educational Leadership
- Teacher Leadership
- Special Education

Transfer of Credit

Students may transfer up to 18 credits of graduate-level coursework taken at an accredited institution of higher education. Approval of transfer credits is to be determined by the Ed.D. Admissions and Transfer Committee and approved by the Ed.D. director.

Scholastic Standing

Students must maintain a cumulative GPA of at least 3.25 in the doctoral coursework and dissertation research courses. In addition, the associate dean for academic affairs may dismiss, with the concurrence of the Ed.D. director and the Committee on Admissions and Scholastic Standing, any academically deficient student, provided that the student is kept fully informed of the Graduate School of Education's dissatisfaction with his or her academic performance and that the decision to dismiss is careful and deliberate. Students may also be dismissed from the program for certain violations of the Academic Integrity Policy. (For further information, see Academic Integrity.

The Qualifying Process

The qualifying process is designed to enable students to demonstrate the skills and knowledge they have learned through coursework as well as their capacity to complete a successful dissertation. To sit for the qualifying exam, students must have completed at least 21 credits of core courses (six of which must be Inquiry I and Inquiry II). Students are required to write two papers over the winter break, between the second fall and second spring semesters of the program. One of the papers is designed by the concentration faculty and one paper is common across all concentrations. Each paper is approximately 15 pages long.

The qualifying process will begin in December of the second fall semester in the program and be completed on the first day of the spring semester. Doing the qualifying process at this time gives students a chance to do summative reflection at a point when they are close to completing coursework, demonstrate what they have learned, and begin to finalize their thoughts on a dissertation topic with adequate time before the proposal writing process begins in the summer.

If a student does not pass one or both of the qualifying papers she or he has one month from the date of the face-to-face meeting to revise the paper(s). Students may not solicit their reviewers during this interim period of revision after they have received the initial feedback. The paper(s) are reviewed again by the original graders. The student will have one opportunity to revise and resubmit papers. If either paper does not pass after the second attempt, the student will fail the qualifying process and will be dropped from the program.

Dissertation

The Ed.D. culminates with a 15-18 month dissertation experience. The dissertation requires students to identify and investigate a problem of practice systematically using current literature and an inquiry methodology. Students are to write a final report that is presented publicly and may include a conference presentation, journal article or book chapter, or presentation to a local community. Students will have the option of working on their dissertation projects individually or in groups organized around key topics of interest.

Students who have not completed the dissertation after 24 credits of 700-level research, but are actively working toward that goal, will be registered for Matriculation Continued as recommended by the committee chair and approved by the Ed.D. director. All degree candidates must be registered continuously in the Graduate School of Education (GSE) in the manner described under Continuous Registration in the Academic Policies and Procedures chapter of this catalog.

Dissertation Committee

The development of the dissertation is formally monitored at both the proposal stage and the final defense by a dissertation chair who is a member of the GSE faculty and two additional committee members, at least one of whom must be a member of the GSE faculty. All committee members must have a doctorate. The Ed.D. director will match students with committee chairs. Other members of the committee will be approved by the Ed.D. director in consultation with the committee chair and the student. A vita for an outside committee member must be provided and approved by the Ed.D. director.

Subsequent changes in the composition of a doctoral committee require concurrence among the chair of the committee, the Ed.D. director, and the faculty members involved.

Dissertation Proposal

A dissertation proposal provides a plan for completing a dissertation. It sets the goals for the enterprise, links the current work to previous efforts, describes the anticipated advance in knowledge and/or practice, and describes the steps to be taken to reach the goal (including methods to be used to ensure valid, reliable, and unbiased assessment/ documentation/ research).

The student must accept responsibility for developing an acceptable dissertation proposal in consultation with his or her committee. An open defense is required before the proposal can be given final approval.

An announcement of the proposal defense, including an electronic copy of a one-page abstract, is to be submitted to the Office of Student and Academic Services at least two weeks prior to the defense date. This abstract will be used to publicize the proposal defense. After the proposal has been successfully defended, two copies of the approved proposal, signed by each committee member, are required to be filled in the Office of Academic Services.

Preparation

Certain requirements must be adhered to during the preparation of dissertations. Specific regulations, such as those pertaining to format and style, must be followed in order to ensure that the dissertation can be accepted by the school for submission to the candidate's doctoral committee and to the university library for filing. The final date for submission of the dissertation and abstract is posted on the GSE website.

A copy of the final defense draft should be available to the committee at least two weeks prior to the defense date. Upon completion of the oral defense, the student is required to submit an electronic copy of the dissertation, including the abstract, on the RUetd website. The electronic copy must include the names of the candidate's doctoral committee without signatures. Additional materials required for final submission include one paper copy of the abstract, one copy of the signed title page, the receipted payment form, the ProQuest agreement forms, and survey forms. All of the above forms must be submitted to the Office of Student and Academic Services no later than the announced deadlines for completion of degree requirements.

Dissertation Defense

Each student will prepare a dissertation defense. The dissertation defense is conducted with members of the student's dissertation committee, and conducted to provide a thorough and systematic examination of the candidate on the content of the dissertation. Approval of a dissertation requires a unanimous vote of the committee. The chair of the committee reports the result of the examination to the Office of Student and Academic Services. All members of the university community are invited to be present during the oral examination.

Publication

After a candidate has been awarded the doctorate, the Graduate School of Education requires that the dissertation be microfilmed. Therefore, the dissertation must be prepared with the same care as if it were to appear in printed form. The abstract, which is to accompany the dissertation and which must not exceed 350 words, will be published in Dissertation Abstracts. It also should be submitted ready for publication. University Microfilms, Ann Arbor, Michigan, will microfilm the dissertation and publish the abstract. Publication by microfilm does not preclude publication by other methods.

Removal from the Program

The Graduate School of Education has an obligation to the citizens of the state of New Jersey to prepare and only recommend for certification caring, competent educational professionals. In rare circumstances, the faculty identifies a student who does not meet our definition of that standard. In those cases, the student is asked to leave the program. Any of the following violations may cause a student's removal from the program:

- violations of the Rutgers Academic Integrity Policy.
- violations of the University Code of Student Conduct.

Student Grievances

Any disciplinary decisions such as removal from the internship or removal from the program are, of course, grievable by the student. Grievances are addressed to the Graduate School of Education (GSE) associate dean for academic affairs and will be heard by a group of faculty members and students who comprise the GSE Student Grievance Committee. Appeals regarding admissions, scholastic standing, and academic progress will be addressed by the Committee on Admissions and Scholastic Standing according to its procedures.

Ph.D. in Education (GSE)

PH.D. IN EDUCATION

The Ph.D. program, offered in New Brunswick, prepares individuals to assume faculty and research positions in academia, government, and the private sector. This program is offered in conjunction with the School of Graduate Studies in New Brunswick, which grants the doctor of philosophy degree. The program is described more fully in the Doctor of Philosophy (Ph.D.) Programs chapter.

Master of Education (GSE)

MASTER OF EDUCATION

The common requirements of all of the master of education (Ed.M.) programs in the school are described in this section. More specific and additional requirements of particular programs can be found on the pages that describe those programs.

Candidates for the Ed.M. degree must complete a minimum of 30 credits at Rutgers. Six of the 30 required credits must be in courses outside the field of specialization of the student's major program. A minimum of 15 credits must be in courses at the graduate level (numbered 500 or above). Of the 30-credit minimum requirement, 3 or 6 credits may be granted for the completion and successful oral defense of a thesis.

Departments may, and in some cases do, set requirements in addition to the minimum requirements given above. These requirements may include comprehensive examinations and research papers. It is the responsibility of the student to be informed of
the standards of the program and department of the major field as well as those of the school.

Transfer credit from schools on the approved list of the GSE may be accepted on approval of the student's adviser only in programs in which more than 30 credits are required for graduation.

Time Limitations

Time Limitations

A student must complete all requirements of his or her program within five years of the first registration as a degree student, or within five years of the beginning of any coursework to be counted toward the degree. Course requirements may not be completed in less than one year as a full-time student, in less than five Summer Sessions, or in less than two years of part-time study as a Graduate School of Education student.

Requirements Other Than Course Credits

Requirements Other Than Course Credits

Students who choose a major program in which requirements other than course credits exist should consult with their advisers with respect to the nature and character of the requirements and the regulations and dates governing their administration and report.

Comprehensive Examinations

Students who choose a major program that requires a comprehensive examination should consult with their advisers on departmental regulations and dates governing the administration of the examination.

The department faculty determines whether the student's performance on the examination is "satisfactory" or "unsatisfactory" and reports this determination in those terms and in writing to the Office of Student and Academic Services. A department may, for good reason, "defer" a report, but in this event must arrange promptly for a determination of "satisfactory" or "unsatisfactory." In the event that the student's performance is rated and reported as "unsatisfactory," he or she may file a request with the department to take the examination a second time. Upon approval of the department faculty and the concurrence of the dean's office, a second examination may be given. A third examination is not permitted.

Some programs may allow students to write a thesis in lieu of taking a comprehensive examination. Students interested in that option should contact their advisers.

Graduation (GSE)

GRADUATION

The university, only upon recommendation of the faculty, confers degrees after a formal application has been filed with the Office of the Graduate Registrar (Graduate Registrar's Office, Room 200F, ASB, Busch Campus 848-445-2757). Applications are submitted online. Degree candidates must file the online Graduate Diploma Application by the announced deadlines: October 1 for an October-dated degree, January 2 for a January-dated degree, and April 1 for a May-dated degree. If the candidate fails to file the application on or before the deadline date, the degree is not conferred until the following degree date. The candidate must file an application for the following degree date. See the online diploma application for specific filing dates.

Degrees are conferred and diplomas awarded four times per year (August, October, January and May). However, there is one university commencement ceremony held each May, at which time May-dated diplomas are issued. October and January graduates also may participate in the annual commencement ceremony.

Candidates for the four degree dates are given the option on the online diploma application of receiving their diplomas by mail, at the registrar's office, or at the school's convocation ceremony, if that option is available for the candidate's school. Diplomas are normally available in Mid September for an August-dated degree, mid-November for an October-dated degree, mid-February for a January-dated degree, and mid-June for a May-dated degree. Degrees will be posted to students' transcripts one to two weeks sooner.

Diplomas and transcripts are withheld from all students whose financial accounts and debts (including tuition, housing, parking, and library) are not cleared.

Doctor of Philosophy (Ph.D.) Programs (GSE)

DOCTOR OF PHILOSOPHY (PH.D.) PROGRAMS

(In conjunction with the **School of Graduate Studies**)

Degree Program Offered: Doctor of Philosophy

Director of Ph.D. in Education Program: Juan Pablo Mejia Ramos, 10 Seminary Place, College Avenue Campus (732-932-7496; Email: jpmejia@math.rutgers.edu)

Director of Ph.D. in Higher Education Program: Ebelia Hernandez, 10 Seminary Place, College Avenue Campus (848-932-0844; Email: ebelia.hernandez@gse.rutgers.edu)

Ph.D. Program in Education

Ph.D. Program in Higher Education

Ph.D. Program in Education (GSE)

Ph.D. Program in Education

Degree Program Offered: Doctor of Philosophy

Director: Juan Pablo Mejia Ramos (732-932-7496; Email: jpmejia@math.rutgers.edu)

Please visit the website.

Students in the Ph.D. in education program will choose one of two concentrations.

The ***Ph.D. in Education Concentration in Learning, Cognition, Instruction, and Development (LCID)***

The Ph.D. in Education Concentration in Learning, Cognition, Instruction, and Development (LCID) prepares students to carry out research on learning and teaching in classrooms and other settings. Interdisciplinary study is encouraged within this concentration, which focuses on: how people think; how knowledge is conveyed; how understanding is acquired; how human beings develop in learning environments; and the ingredients of effective teaching. Students can specialize in areas of faculty expertise, with opportunities for research in interdisciplinary studies and these specializations: early childhood education, educational psychology, human development, language education, learning sciences, literacy education, mathematics education, science education, social studies education, special education, and statistics and measurement.

We help our students to develop the broad base of knowledge and research skills needed to design and investigate methods of improving learning and teaching in real-world learning environments. Students specialize in one area of study but learn about one or more other areas, allowing them to develop stronger educational interventions and research designs.

The ***Ph.D. in Education Concentration in Theory, Organization, and Policy (TOP)*** prepares students for research in higher education, policy organizations, and governmental/nongovernmental organizations concerned with education, broadly defined.

Over the past three decades, political leaders have increasingly recognized the critical importance of education to economic, political, social, and cultural improvement. Their decisions have implications for the well-being of families, communities, and the United States' place in the world. Unfortunately, decision makers often pursue educational goals without a clear understanding of their own philosophical assumptions, the needs for change, the possible results of change, or the social forces that affect actions that legislatures and governments take. This program prepares scholars who can help find answers to these questions and, in the process, inform policy makers, educators, and the public about the progress and challenges of education.

Our faculty conduct research in organizational leadership, policy, and international and comparative education as well as in the social science and humanities disciplines of education. Our students specialize in one area of study but learn about others, allowing them to develop stronger educational analyses and research designs. Following an apprenticeship model and working closely with their academic adviser, students design their own course of study, taking courses offered at the GSE and across Rutgers.

Admissions Requirements

All prospective students must apply to the Ph.D. in education program by December 1 through the Graduate Admissions website. The following items are required for a complete application package:

- Personal statement
- Letters of recommendation (3)
- Undergraduate and graduate transcript
- GRE Scores (Note: GRE General scores are no longer required and will not be considered in the admission decision. (NOTE:GRE scores *are required* for applicants to the Statistics and Measurement concentration)
- TOEFL (for international students)
- Curriculum Vitae/Résumé
- Sample of academic writing

All applicants are automatically considered by the director of the Ph.D. in education program for fellowships, graduate assistantships, and teaching assistantships. No separate application is needed for this funding.

Admissions decisions are typically made by mid-March. The GSE Ph.D. in education program notifies applicants of their admittance to the program (in an informal capacity) via email. Graduate Admissions then emails the official acceptance letter. Admitted applicants should contact their assigned faculty adviser or the director of the Ph.D. in education program if there are any questions or concerns while making the final decision about accepting the offer of admission to the Ph.D. in education program at Rutgers.

Program Requirements

The Ph.D. in education program requires a combination of coursework, examinations, and research, eventually leading to a dissertation that is an original piece of research. A student must devote a minimum of three years of full-time study beyond the bachelor's degree for the Ph.D. If any of the work is conducted on a part-time basis, the minimum time required will be longer.

For this purpose, one year of study is represented by 24 credits of coursework or research. Therefore, the minimum requirement for the Ph.D. degree is 72 credits: at least 48 credits of coursework and at least 24 credits of dissertation-related research. Students must maintain a minimum cumulative grade point average (GPA) of 3.25.

Two areas of study (learning sciences and statistics and measurement) within the LCID concentration have additional course requirements. For learning sciences, the 18 credits for area of study must include the following two courses (see Ph.D. in Education Courses (16:300) in this catalog):

16:300:582 Cognition and Instruction
15:262:610 Design-based Research

The Ph.D. in education program is arranged in two phases. The preliminary phase, which generally involves formal courses of study, is completed when the student passes the qualifying examination. In the second phase, the student usually writes their dissertation. This phase concludes when the dissertation is accepted and the defense of it is approved. Between admission to the Rutgers School of Graduate Studies (SGS) and the conferral of the Ph.D. degree, the student must:

1. satisfy the course and other preliminary requirements of the particular concentration/area of study in which the student is enrolled;
2. pass the qualifying examination;
3. present the results of the unique, original research in an acceptable dissertation; and|
4. pass a final, oral dissertation defense.

The student becomes a formal candidate for the doctorate only after completing the qualifying examination.

As the Ph.D. in education policy on the requirements/guidelines for university-level teaching experience states, Ph.D. students must demonstrate competency in teaching. All students must submit a teaching portfolio in order to complete the program.

Minimum requirements of the teaching portfolio include:

- a teaching statement;
- student evaluations (if you were responsible for a course);
- a faculty observation of at least one lesson with a written summary by the observer; and
- a sample of instructional artifacts or documentation to illustrate key aspects of your teaching (e.g., lesson plans, assessments, assignments);

In addition, students are encouraged to participate in the intellectual life of the educational research community by presenting their research and attending colloquia at the Graduate School of Education and in their professional research community (e.g., Annual Meeting of the American Educational Research Association).

Students who are admitted to the Ph.D. in education program will be eligible to earn a master of arts (M.A.) degree from SGS while working toward the Ph.D. degree. These credits are eligible to be counted toward Ph.D. requirements in the student's concentration, will be accumulated while pursuing the requirements of the Ph.D. in education program, and will adhere to the guidelines related to transfer of credits, undergraduate courses, and other policies for M.A. degrees as described in the Ph.D. Handbook. Students should periodically refer to the SGS website and the Ph.D. handbook for policy updates and further information.

Ph.D. Program in Higher Education (GSE)

Ph.D. Program in Higher Education

Degree Program Offered: Doctor of Philosophy

Director: Ebelia Hernández (848-932-0844; Email: ebelia.hernandez@gse.rutgers.edu)

Please visit the website.

For a complete list of program faculty, please visit Higher Education Faculty in this catalog.

The Ph.D. in higher education at Rutgers University offers focused study of the complexities of colleges and universities, their missions, contexts, challenges, and successes. This interdisciplinary degree program brings together distinguished higher education scholars representing the Graduate School of Education (GSE), the Bloustein School of Planning and Public Policy (BSPPP), the School of Arts and Sciences (SAS), the School of Communication and Information (SC&I), the School of Environmental and Biological Sciences (SEBS), and the School of Management and Labor Relations (SMLR). Affiliated faculty members are higher education experts in the fields of, for example: education, law, communication, organizational studies, public policy, and economics.

Introduction

The Ph.D. in higher education program prepares higher education researchers who will take their scholarship, knowledge, and research skills into a range of higher education settings such as universities and colleges, state governing and coordinating boards, federal government, independent higher education organizations, consulting groups, not-for-profit organizations, and foundations.

Faculty

Stephanie Brescia, B.A., Villanova; Ed.M., Ph.D., Rutgers

Clark Chinn, Ph.D., Illinois (Urbana-Champaign)

Joan Collier, Ph.D., Georgia

Cara Cuite, Ph.D., Rutgers

Monica Devanas, Ph.D., Rutgers

Adrienne Eaton, Ph.D., Wisconsin

Richard Edwards, Ph.D., SUNY, Albany

Nichole Garcia, Ph.D., California

Marybeth Gasman, Ph.D., Indiana

Gary Gigliotti, Ph.D., Columbia

Ralph Gigliotti, Ph.D., Rutgers

Robert Heffernan, Ph.D., New York University

Ebelia Hernandez, Ph.D., Indiana

Benjamin Justice, Ph.D., Stanford

Michael Klein, Ph.D., New York

Jerome Kukor, Ph.D., Michigan

Susan Lawrence, Ph.D., Johns Hopkins

Barbara Lee, Ph.D., Ohio; J.D., Georgetown

Beth Leech, Ph.D., Texas A&M

Melinda Mangin, Ph.D., Rutgers

Richard McCormick, Ph.D., Yale

Lawrence Nespoli, Ph.D., Pennsylvania

Angela O'Donnell, Ph.D., Texas Christian

Brent Ruben, Ph.D., Iowa

Sharon Ryan, Ph.D., Columbia

Jorge Schement, Ph.D., Stanford

Tobias Schulze-Cleven, Ph.D., California (Berkeley)

Susan Schurman, Ph.D., Michigan

Hana Shepherd, Ph.D., Princeton

Linda Stamato, New York University

Karen Stubaus, Ph.D., Rutgers

Saundra Tomlinson-Clarke, Ph.D., Florida

Carl Van Horn, Ph.D., Ohio State

Michelle Van Noy, Ph.D., Columbia

Dayna Weintraub, Ph.D., California

Melissa Wooten, Ph.D., Michigan (Ann Arbor)

Learning Outcomes and Curriculum

Learning Outcomes and Curriculum

The Ph.D. in higher education curriculum is informed by the following learning outcomes. Graduates of the higher education Ph.D. program will:

- conduct original, rigorous research and interpret and evaluate findings from other research studies;
- be knowledgeable about higher education organizations, systems, governance, leadership, analysis and planning, research, assessment and evaluation, and communication;
- understand current and developing trends and issues facing colleges and universities;
- understand and effectively negotiate the complexities of higher education in terms of institutional type, control, contexts, stakeholders, and constituencies; and
- provide leadership, insight, and expertise at the institutional or related higher education settings in which they work.

Ph.D. in higher education students will complete an approved program of study that includes, at minimum: the higher education core (18 credits), additional graduate coursework (15 credits), research core (15 credits), and independent research (24 credits). Students must pass qualifying examinations to advance to candidacy, and the dissertation must be approved by the candidate's faculty committee. No more than 24 credits of coursework outside of the School of Graduate Studies may be applied toward the 72 minimum credits required for the Ph.D. in higher education.

Students who are admitted to the Ph.D. program in higher education will be eligible to earn a master of arts (M.A.) degree while working toward the Ph.D. Only students admitted to the Ph.D. program will be eligible for the M.A. degree. Applications by prospective students seeking only an M.A. degree will be rejected without review.

Upon satisfactory completion of 18 credits of higher education core courses, 6 credits of additional graduate coursework, 6 credits of the research core, and a thesis project under the supervision of the faculty adviser, a M.A. in higher education may be earned. This master's degree option is available ONLY to enrolled Ph.D. in higher education students. Applications for admission to (only) the M.A. in higher education will not be reviewed

The higher education program also offers a graduate certificate in Community College Leadership. The graduate certificate program entails successful completion of 12 credits of required coursework. Admitted Ph.D. students may complete one or more graduate certificates during the course of their Ph.D. study. Other individuals interested in earning a graduate certificate must apply for admission. Successful completion of a graduate certificate does not result in subsequent admission to the Ph.D. in higher education program.

Admission

Admission

Admission

The required qualifications for admission into the Ph.D. in higher education program are an earned baccalaureate degree from an accredited college or university and strong undergraduate GPA. Applicants with a baccalaureate degree and little to no higher education experience may be admitted in cases of extraordinary academic promise and demonstrated commitment to research and scholarship in higher education.

The preferred qualifications for admission to the Ph.D. program are, in addition to the above, an earned master's degree in higher education or a closely related area; a strong graduate GPA; three to five years full-time, post-master's degree experience in higher education setting(s); and higher education research and/or assessment experience.

Prospective Ph.D. in higher education students may apply online. A completed application includes: Rutgers Application for Graduate Admission, official transcripts for all post-secondary coursework, personal statement, writing sample, and three letters of reference (at least two from full-time faculty members).

Doctor of Education (Ed.D.) Programs - For Students Entering before 2010 (GSE)

DOCTOR OF EDUCATION (ED.D.) PROGRAMS - FOR STUDENTS ENTERING BEFORE 2010

The Ed.D. program descriptions and requirements included in this chapter are relevant for those students who started the program prior to 2010. For newer students, please go the to chapter Doctor of Education (Ed.D.) Programs - For Students Entering in or subsequent to 2010.

Please note: the Ed.M. in Mathematics Education (Certification: Teacher of Mathematics) did not change. The description found in this chapter is still in effect.

Programs in the Department of Educational Psychology (GSE)

PROGRAMS IN THE DEPARTMENT OF EDUCATIONAL PSYCHOLOGY

Ed.D. in Special Education

Coordinator: Angela O'Donnell (848-932-0830; Email: angela.odonnell@gse.rutgers.edu)

Program Description: The doctoral program in special education is designed to prepare leadership personnel in special education for the following positions: administrators of special education services in the schools and teacher educators at colleges and universities. The program faculty is committed to the improvement of educational practices in the schools for students with disabilities. Depending on the student's professional goals, one of two areas of concentration can be followed:

I. Administration of Special Education Services (48 credits, plus 24 credits of dissertation study)

II. College/University Teaching in Special Education (48 credits, plus 24 credits of dissertation study)

Students interested in obtaining the New Jersey Learning Disabilities Teacher Consultant (LDTC) certification can take the additional required courses as part of their doctoral program.

Education Requirements:

I. Administration of Special Education Services (48 credits, plus 24 credits of dissertation study)

1. 12 credits in doctoral-level special education core:

15:293:605 Seminar in Special Education (3)

15:293:609 Research in Special Education (3)

15:293:630 Current Topics in Special Education (3)

15:293:633 Internship in Special Education (3)

2. 12 credits in statistics core:

Required (9 credits):

15:291:520 Program Evaluation: An Introduction to Methods and Practice (3)

16:300:509 Qualitative Research Methods in Education I: Introduction (3)

16:300:511 Quantitative Research Methods in Education I: Introduction (3)

One selected course from the following (3 credits):

16:300:513 Qualitative Research Methods in Education II: Design and Analysis (3)

16:300:515 Quantitative Research Methods in Education II: ANOVA (3)

3. 9 credits in related areas:

One course in each of the following areas:

social and philosophical foundations (course from social and philosophical foundations program)

psychological foundations (course from learning, cognition, and development program)

learning in a content area (course from the learning and teaching department)

4. 15 credits in area of concentration: administration of special education services

5. 24 credits of dissertation study

II. College/University Teaching in Special Education (48 credits, plus 24 credits of dissertation study)

1. 12 credits in doctoral-level special education core:

15:293:605 Seminar in Special Education (3)

15:293:609 Research in Special Education (3)

15:293:630 Current Topics in Special Education (3)

15:293:633 Internship in Special Education (3)

2. 12 credits in statistics core:

Required (6 credits):

16:300:509 Qualitative Research Methods in Education I: Introduction (3)

16:300:511 Quantitative Research Methods in Education I: Introduction (3)

Two courses selected from the following (6 credits):

15:291:520 Program Evaluation: An Introduction to Methods and Practice (3)

16:300:513 Qualitative Research Methods in Education II: Design and Analysis (3)

16:300:515 Quantitative Research Methods in Education II: ANOVA (3)

16:300:517 Qualitative Research Methods in Education III: Educational Ethnography (3)

16:300:519 Quantitative Research Methods in Education III: Regression (3)

3. 9 credits in related areas

One course in each of the following areas:

social and philosophical foundations (course from social and philosophical foundations program)

psychological foundations (course from learning, cognition, and development program)

learning in a content area (course from the Department of Learning and Teaching)

4. 15 credits in area of concentration: college/university teaching in special education

5. 24 credits of dissertation study

A qualifying examination is a requirement of the Ed.D. special education program. The qualifying examination includes two written scholarly papers on special education topics. A third paper, project, or product is required on a subject outside of special education (e.g., development of a curriculum guide). Each of the two special education

papers is proposed by the student in consultation with a special education faculty member who will serve as first reader. The outside requirement is proposed by the student in consultation with a faculty member in another program (e.g., educational administration). Completed papers/products are submitted to the first reader. A second reader must also evaluate the papers/products. The student passes the qualifying examination when all three products are judged satisfactory by two readers.

Programs in the Department of Educational Theory, Policy, and Administration (GSE)

PROGRAMS IN THE DEPARTMENT OF EDUCATIONAL THEORY, POLICY, AND ADMINISTRATION

Ed.D. in Educational Administration and Supervision

Ed.D. in Educational Administration and Supervision

Coordinator: Catherine Lugg (848-932-0721; email: catherine.lugg@gse.rutgers.edu)

Program Description: The Department of Educational Theory, Policy, and Administration offers the doctor of education degree (Ed.D.) in educational administration and supervision. The program is designed to ensure that each graduate acquires a core of theoretical knowledge and research skills germane to all administrative and program development positions and yet has wide latitude to pursue individual professional specialties. The program fosters a balance between theory and its application in professional practice. The Ed.D. program has been designed for advanced studies. Applicants seeking certification as supervisors or principals should enroll in the master's degree program (Option A).

Ed.D. Program Requirements

Minimum of 48 credits of coursework

Maximum of 18 transfer credits for postbaccalaureate coursework

Education Requirements:

Area of Specialization in Educational Administration (30 credits)

Courses required:

15:230:600 Topics in Educational Administration and Supervision (3)

15:230:603 Theory and Research Findings in Educational Administration (3)

15:230:604 Organizational Theory in Education (3)

15:230:614 Research Problems in Educational Administration and Supervision II (3)

Research Methods (9 credits)

Required:

15:230:613 Research Problems in Educational Administration and Supervision I (3)

6 additional credits of research chosen in consultation with adviser

Courses outside Area of Specialization (9 credits)

One course in each of the three following areas:

learning in a content area

social and philosophical foundations

psychological foundations

Predissertation Project

Before dissertation candidacy, students must complete a relevant predissertation project, culminating in a written product. Projects will be developed in consultation with a project adviser and in accordance with program guidelines.

Qualifying Examination

Upon completion of coursework, students must pass a qualifying examination in educational administration and supervision. The qualifying exam is tailored to fit the contours of (a) the proposed degree program, (b) the knowledge base, and (c) the continuing challenges of educational governance. Readings for the examination should include, at minimum, readings required and recommended in order to complete a proposed degree program.

The Dissertation

The qualifying exam will be used to determine a student's readiness to conduct dissertation research. The dissertation in educational administration must comply with generally accepted quality standards for dissertation research and contribute to literatures that inform the study and practice of educational administration.

Programs in the Department of Educational Theory, Policy, and Administration (GSE)

Ed.D. in Social and Philosophical Foundations of Education

Ed.D. in Social and Philosophical Foundations of Education

Coordinator: James Giarelli (848-932-0731; email: james.giarelli@gse.rutgers.edu)

Program Description: The program in social and philosophical foundations of education provides students with an opportunity for advanced study and research in education from the perspectives provided by the social science and humanities disciplines. The program prepares individuals for conducting research, teaching at the postsecondary level, and assuming leadership positions in public and higher education and other organizations.

The Ed.D. program in the social and philosophical foundations of education requires a minimum of 48 postbaccalaureate graduate credits, which may include a maximum transfer of 18 credits from graduate work completed outside of Rutgers prior to matriculation in the program. All doctoral programs require a minimum of 30 graduate credits in the social and philosophical foundations of education approved by the adviser and department chair. In addition, doctoral students must register for a minimum of 24 research credits during dissertation study.

Two concentrations are available within the Ed.D. program in the social and philosophical foundations of education: a program specialization concentration and an educational theory concentration. Both concentrations have four elements: doctoral coursework, residency, qualifying examinations, and doctoral dissertation.

Degree Requirements: Program Specialization Concentration

Doctoral students enrolled in a program specialization concentration may specialize in social and cultural studies in education or humanities and education. All specialization programs follow a common set of guidelines in specifying degree requirements.

Doctoral coursework: program specialization

Total coursework in social and philosophical foundations of education: 30 credits, including 21 credits of coursework in area of specialization.

Collateral coursework: program specialization

Students specializing in social and cultural studies must take at least 6 credits in humanities and education. Students specializing in humanities and education must take at least 6 credits in social and cultural studies.

Degree Requirements: Educational Theory Concentration

Doctoral students enrolled in the educational theory concentration develop a coherent plan of coursework focused on two areas of specialization. All educational theory programs follow a common set of guidelines in specifying degree requirements.

Doctoral coursework: educational theory concentration

Total coursework in social and philosophical foundations: 30 credits, including 21 credits in area of specialization. All educational theory students must take at least 6 credits of coursework in both social and cultural studies and humanities in education.

Degree Requirements: All Doctoral Programs

Doctoral coursework: Graduate School of Education core requirements in research methods

All doctoral students must take a minimum of 9 credits of research methods courses appropriate to the student's scholarly and professional interests. Appropriate courses may be taken outside of the program area. Applicable research courses within the social and philosophical foundations program area would include the following:

15:310:536 Methods of Educational Ethnography (3)

15:310:601 Problems in History of Education (3)

15:310:615 Seminar in Philosophy of Education (3)

Doctoral coursework: Graduate School of Education core requirements in outside areas

All Ed.D. students in social and philosophical foundations must take 3 credits from each of the following three areas: learning in a content area, policy/leadership, and psychological foundations.

Qualifying Examination

Doctoral qualifying examinations normally are given to students at the completion of their coursework to assess the breadth and depth of the knowledge that they have acquired during doctoral studies and to gauge readiness to begin dissertation research. Successful completion of qualifying examinations is a prerequisite for admission to doctoral candidacy. These examinations are offered once each semester. Program specialization students respond to three questions: two questions in the area of specialization and one question focusing on research methods and their application. Educational theory students respond to three questions: one question from each of their areas of specialization and one question focusing on research methods and their application.

Doctoral Dissertation

The doctoral dissertation is the capstone of doctoral studies. With the advice of a duly constituted doctoral dissertation committee, Ed.D. candidates prepare and defend a dissertation proposal and a doctoral dissertation that demonstrates the ability to engage successfully in the scholarly and systematic study of educational problems and to make an original and creative contribution to educational research.

Programs in the Department of Educational Theory, Policy, and Administration (GSE)

Ed.D. in Social Studies Education

Ed.D. in Social Studies Education

Coordinators:
Benjamin Justice (848-932-0679; email: ben.justice@gse.rutgers.edu)
Beth Rubin (848-932-0677; email: beth.rubin@gse.rutgers.edu)

Program Description: A broad and interdisciplinary preparation that is built on a substantial foundation in history and the social sciences is preferred for admission to the program. The doctoral program in social studies education is individualized, flexible, and developed jointly by the student and his or her adviser in accordance with the student's particular background and educational objectives. Ordinarily, such a program combines substantial work in a subject field with studies in professional education. In pursuing these doctoral studies, students usually work with arts and sciences departments and other sections of the university. Specific courses, areas of study, and research activities are detailed in consultation with the appropriate adviser and are listed at the time the student's program proposal is submitted.

The following outline is the guide to the distribution of courses within a student's program.

Education Requirements:

Specialization (30 credits)

One course from:

15:257:560 Introduction to Social Studies Education (3)

15:257:561 Analysis of Social Studies Curricula (3)

At least 15 credits from:

15:257:560 Introduction to Social Studies Education (3)

15:257:561 Analysis of Social Studies Curricula (3)

15:257:564 Social Studies in the Elementary School (3)

15:257:566 Liberty Versus Equality in Education (3)

15;257:568 Topics in Social Studies Education (3)

15:257:569 Making Citizens: Civic Identity, Learning, and Action (3)

15:257:665 Independent Study in Social Studies Education (BA)

At least 12 credits in history and/or the social sciences from the School of Graduate Studies in New Brunswick

Research Methods (9 credits)

9 credits taken from at least two of the following three areas:

quantitative research in education

qualitative research in education

program evaluation in education

Foundations (9 credits)

3 credits in each of the following areas:

educational policy/leadership

social and philosophical foundations of education

psychological foundations of education

Ed.D. Qualifying Examination

Doctoral qualifying examinations are normally given to students at the completion of their coursework to assess the breadth and depth of the knowledge that they have acquired in their studies.

Dissertation Proposal

Must present and defend a written dissertation proposal for approval by the student's dissertation committee.

Doctoral students must register for a minimum of 24 research credits during dissertation study.

Programs in the Department of Learning and Teaching (GSE)

PROGRAMS IN THE DEPARTMENT OF LEARNING AND TEACHING

The Department of Learning and Teaching offers the Doctor of Education (Ed.D.) degree in the following areas:

- Early Childhood/Elementary Education*
- Language Education
- Literacy Education
- Mathematics Education
- Science Education

The doctor of education degree programs prepare individuals to take leadership roles in their area of study. All programs combine substantial work in the program area with courses in research methods and educational foundations. Some programs may also require coursework in departments of arts and sciences. Upon successful completion of a qualifying examination designed to assess the breadth and depth of students' knowledge in their field, students work with their advisers to develop and execute their dissertation project.

Sample Degree Requirements (Minimum of 72 Credits)

- Foundations of education (9)
- Area of specialization (30)
- Research (9)
- Qualifying examination
- Dissertation study (24)

*A specialization in creative arts education is available within the early childhood/elementary education program.

Ed.D. in Early Childhood/Elementary Education

Ed.D. in Early Childhood/Elementary Education

Coordinator: Sharon Ryan (848-932-0808; Email: sharon.ryan@gse.rutgers.edu)

Program Description: The doctoral program in early childhood/elementary education is intended for education professionals who wish to study learning and teaching in early childhood/elementary settings. The program has four major goals: (1) to foster a vision of learning as an active process in which students construct their own knowledge and understanding; (2) to foster a vision of teaching that promotes depth of understanding and problem-solving rather than mere curriculum coverage and that recognizes children's individual and cultural differences; (3) to

prepare educational leaders who are knowledgeable about current research and theory on learning and teaching so they can make informed decisions about educational practice and can help to bring about change in schools; and (4) to prepare students to undertake independent research so they can identify and investigate significant educational questions and problems.

The program is appropriate for individuals who plan to pursue careers as college or university faculty in early childhood/elementary education; as curriculum developers, supervisors, and instructional leaders in schools or other educational organizations; or as administrators of early childhood settings.

Education Requirements:

I. Foundations of Education (9 credits, in at least three of the following four areas; the 9 credits must be outside your own program area)

A. psychological foundations

B. sociological/philosophical foundations

C. policy and leadership

D. learning in a content area

II. Early Childhood/Elementary Education (30 credits)

A. Perspectives on Learning and Teaching in Early Childhood/Elementary Education Classrooms (12 credits)

15:251:570 Advanced Pedagogical Techniques for the Elementary Classroom (3)

15:251:577 Historical and Contemporary Issues in Early Childhood Education (3)

15:251:675 Independent Study in Early Childhood/Elementary Education (3) (a supervised research experience that precedes the dissertation and culminates in a written product)

15:251:676 Research in Early Childhood/Elementary Education (3)

B. Area of Specialization (12 credits)

Chosen from the following:

(1) Content Area Concentration (creative arts education, literacy, English as a Second Language and bilingual education, instructional technology, mathematics education, and science education)

(2) Early Childhood Education and Applied Child Development (focus on settings for children, birth through age 5; child care, family and parenting issues; developmentally appropriate practice; and development of infants and toddlers, including those at risk)

C. Electives (6 credits)

Taken with adviser's approval.

III. Research Methodology (at least 9 credits in two of the following three areas)

A. qualitative foundations

B. quantitative foundations

C. program evaluation

Courses must be selected from the existing list of approved research courses, as well as courses designed for the Ph.D. program.

IV. Qualifying Examination

Doctoral students must successfully complete a two-part qualifying examination, written at home and evaluated by a faculty committee consisting of two members, at least one of whom is in the student's program. The first part of the exam involves general issues in early childhood/elementary education. The second part is in the area of specialization and typically involves an integrative literature review that can serve as the basis of a dissertation proposal. (See adviser for details.)

Questions are developed jointly by the student and the chair of the qualifying examination committee (usually the student's program or dissertation adviser).

V. Doctoral Dissertation (24 credits)

15:250:701 Dissertation Study in Learning and Teaching (Note: No more than 12 credits of dissertation study may be taken before the successful completion of the qualifying examination.) The dissertation is a report of research construed broadly to include, but not be limited to, historical ethnographic, descriptive, evaluation, correlational, or experimental studies.

The dissertation committee consists of at least three members approved by the program and department chair. The chair of the dissertation committee must be a member of the Graduate School of Education, and at least one committee member must be a member of the student's program. At least two committee members must be Rutgers faculty members; at least one must be from outside the student's department.

SUMMARY OF CREDITS

Foundations of Education	9 credits
EC/Elementary Education	30 credits
Research Methodology	9 credits
Dissertation Study	24 credits
TOTAL	**72 credits**

Ed.D. in Language Education

Ed.D. in Language Education

Coordinator: Mary Curran (848-932-0790; Email: mary.curran@gse.rutgers.edu)

Program Description: The doctoral program in language education provides students with a thorough understanding of the nature of language, the process of second language acquisition, the relationship between language and culture, and successful models of second language pedagogy. The program has three major goals: 1) to provide students with opportunities to construct their own theoretically grounded knowledge of the field; 2) to provide training and experience in conducting language education research; and 3) to encourage students to examine the larger political, social, and cultural context of language education. The program is appropriate for experienced teachers who wish to pursue careers as college and university faculty in the United States or overseas, administrators in schools and other educational institutions, and leaders in state and federal government agencies.

The doctoral program in language education is built around a set of core courses that provides an opportunity for students to work with all three faculty members and to build a fundamental understanding of the structure of language and its social function, the principles of second/foreign language education, and the relationship between language and culture. Additional courses allow students to develop an area of specialization congruent with the student's research and career interests. If so desired, students can obtain New Jersey certification or an endorsement while pursuing a doctoral degree in language education. All students are expected to complete a language education research experience and to pass qualifying requirements prior to beginning dissertation study.

When an applicant is accepted into the doctoral program, he or she is assigned an academic adviser who meets with the student to develop a proposed program that uses the outline below as a guide. This proposed degree program indicates the specific courses the student intends to take (including appropriate courses from other units of the university), the credits that are being transferred from other institutions (if any), anticipated dates of residency, etc. Advising forms are available in the department office. The proposed degree program must be filed within the first 18 credits of coursework and must be approved by the student's academic adviser, the department chair, and the associate dean. Although the proposed degree program may be modified, it provides a blueprint for study and encourages students to think early about the directions they wish to pursue and the preparation they need in order to carry out their dissertations.

Students may change their academic advisers if and when they identify faculty members whose interests are more consistent with their own. Please note, however, that the proposed degree program should be developed with the academic adviser with whom the student will be continuing to work. It should also be noted that the academic adviser is not necessarily the faculty member who serves as the student's dissertation adviser.

Education Requirements:

I. Foundations of Education (9 credits, three in each area)

A. psychological foundations

B. sociological/philosophical foundations

C. policy and leadership

II. Language Education (30 credits)

A. Core Courses (15 credits)

15:253:520 Principles of Second/Foreign Language Acquisition (3)

15:253:523 Language and Culture (3)

15:253:530 Foundations of Language I (3)

15:253:531 Foundations of Language II (3)

15:253:620 Seminar in Language Education Research (3)

B. Area of Specialization (15 credits)

These courses should be chosen in consultation with an adviser and should reflect the student's developing research and career interests. They may be outside the program (e.g., in literacy education) or outside the school (e.g., in the Rutgers anthropology, linguistics, language, or international studies departments, or in the School of Communication and Information).

C. Research Experience

Students write a concept paper providing an in-depth critical evaluation of an issue in language education. After the paper is accepted by the adviser as adequate, it will be discussed with the student at a formal meeting with the language education faculty. The student may register for an independent study if substantial guidance from a faculty member is desired to support the composition of this paper.

III. Research Methodology (9 credits)

A.15:291:511 Introduction to Assessment, Applied Statistics, and Research (3)

B. Two courses in one of the following three areas, and one in another area in consultation with adviser. (Suggested options listed below.)

1. Qualitative Foundations

16:300:513 Qualitative Research Methods in Education II: Design and Analysis (3)

16:300:509 Qualitative Research Methods in Education I: Introduction (3)

15:310:536 Methods of Educational Ethnography (3)

2. Quantitative Foundations

15:291:531 Statistical Methods I (3)

15:291:532 Statistical Methods II (3)

16:300:511 Quantitative Research Methods in Education I: Introduction (3)

3. Program Evaluation

15:291:520 Program Evaluation: An Introduction to Methods and Practice (3)

15:291:620 Program Evaluation: Theory and Advanced Methods (3)

IV. Qualifying Examination

Doctoral students are required to demonstrate their qualifications prior to undertaking dissertation study by passing a two-part qualifying examination evaluated by the language education faculty.

V. Doctoral Dissertation Study (24 credits)

15:250:701 Dissertation Study: Learning and Teaching (BA)

(Note: no more than 12 credits of dissertation study may be taken before the successful completion of the qualifying examination.) The dissertation committee consists of at least three members that collectively meet the following requirements: 1) the chair of the dissertation committee must be a member of the Graduate School of Education; 2) at least one must be a member of the student's program; 3) at least two must be Rutgers faculty members; and 4) at least one must be from outside the student's department.

SUMMARY OF CREDITS

Foundations of Education	9 credits
Language Education	30 credits
Research Methodology	9 credits
Dissertation Study	24 credits
TOTAL	**72 credits**

Programs in the Department of Learning and Teaching (GSE)

Ed.D. in Literacy Education

Ed.D. in Literacy Education

Coordinator: Alisa Belzer (848-932-0778; Email: alisa.belzer@gse.rutgers.edu)

Purpose: The purpose of the Ed.D. degree is to prepare professionals who can lead the development and improvement of literacy education. These professionals will contribute to the application and creation of knowledge through the analysis of literacy learning and/or teaching or through the analysis of issues related to program development.

Program Description: The program requires 72 credits of study beyond the bachelor of arts degree. Students develop a broad understanding of literacy issues, a repertoire of research tools, an understanding of how their work relates to the work of other disciplines both within and outside the Graduate School of Education (GSE), and pursue an inquiry into an area of special interest. In addition to coursework, students are required to write a qualifying paper, pass a qualifying exam, propose and complete an original research project, and complete and defend a dissertation based on that research.

Advisement: Upon admission each student is assigned an academic adviser. Students should meet with their advisers each semester and should work with them to develop the student's proposed degree program, which must be filed within the first 18 credits after matriculation. Students may request a new adviser at any time prior to filing a proposed degree program. Please note that the academic adviser does not have to serve as the chair of the dissertation committee.

Education Requirements:

1. Foundations of Education (at least one course in each of the following areas)

Learning in a Content Area

policy and leadership

social and philosophical foundations

psychological foundations

The 9 credits that the student will take will be outside the student's own program.

2. Literacy Education

A. Area of Specialization Required Courses

15:252:514 Issues of Diversity in Language and Literacy Learning (3)

15:252:615 Independent Study in English Education (Qualifying Paper) (BA)

15:299:561 Theoretical Foundations of Literacy--Research, Policy, and Practice (3)

15:299:564 Diagnosis and Correction of Reading Difficulties (3)

15:299:566 Literacy Research and Supervision (3)

16:300:516 Developing a Theory of Language and Literacy Education (3)

16:300:532 Language in Education: Sociocultural Theory (3)

B. An additional 9 credits taken in literacy education or in relevant areas within or outside the GSE. Elective courses require adviser approval.

3. Research Methodology (9 credits consisting of courses in two of the following three areas)

quantitative foundations

qualitative foundations

program evaluation

(Courses require adviser's approval.)

Qualifying Examination: The qualifying examination requires students to respond to two questions in 15-20 page papers. Each year one common question will be given to all candidates. This question will center on an issue that cuts across areas of specialization and will be designed to guarantee both that students are current in their knowledge and that they are able to use research and theory to advance their own arguments. The second question will be developed by the adviser and will center on the area that the student plans to investigate in his or her dissertation. Like the coursework, then, the qualifying exam is designed to ensure that students have both sufficient depth and breadth of knowledge. Qualifying examinations must be read by two members of the core faculty.

Dissertation (24 Credits): 15:250:701 Dissertation Study: Learning and Teaching (BA) (Note: no more than 12 credits of dissertation study may be taken before the successful completion of the qualifying examination.) The dissertation committee consists of at least three members approved by the program and department chair. The chair of the dissertation committee must be a member of the Graduate School of Education, and at least one committee member must be a member of the student's program. At least two committee members must be Rutgers faculty members; at least one must be from outside the student's department.

TOTAL CREDITS: 72

Please Note:

- Students must maintain a cumulative GPA of at least 3.25 in the doctoral coursework and dissertation research courses.
- Students may petition the faculty to transfer up to 18 graduate credits of coursework taken elsewhere to meet these requirements. Transfer of credits is not guaranteed, and it must be demonstrated that transferred credits meet the specific goals of the program. The faculty will review each petition and decide if the coursework taken elsewhere meets the standards of courses sponsored by the Ed.D. program.
- Degree programs will be approved by both the student's program adviser and by the chair of the department.

Time Limits: Students have seven years from the time of admission to complete coursework and qualifying examinations, and they will have a total of 10 years to complete all requirements.

Programs in the Department of Learning and Teaching (GSE)

Ed.D. in Mathematics Education

Ed.D. in Mathematics Education

Coordinator: Carolyn Maher (848-932-0802; Email: carolyn.maher@gse.rutgers.edu)

Program Description: The doctoral program in mathematics education is designed to provide students with broad competencies in 1) fundamental problems in mathematics education; 2) current issues in mathematics education; 3) content of mathematics; 4) existing research in mathematics education; 5) human cognitive development, particularly as it relates to learning mathematics; and 6) research methods that may be used either in general mathematics education research or in the evaluation of particular programs in schools. Graduates of the program are expected to be competent in the content of mathematics and to be knowledgeable about the psychology of learning, student diversity, and the social, cultural, and political milieu in which education takes place.

The program is appropriate for individuals who plan to pursue careers as college or university faculty in mathematics education, two-year college faculty in mathematics, or as classroom teachers, curriculum developers, supervisors, and instructional leaders in schools or other educational organizations. The student body is comprised of individuals in many of these types of positions, and the program is flexible enough to be sensitive to a diversity of academic needs and interests.

Some students come to the program with substantial backgrounds in mathematics and relatively sparse backgrounds in education. Others present the reverse situation. Still others come with relatively balanced previous preparation. It is an objective of the mathematics education program to maintain the balance where it exists or provide it if it does not. This objective is one of the bases for the differentiation of programs from student to student. Another is the difference in academic interests and career goals among students.

When an applicant is accepted into the doctoral program, he or she is assigned an academic adviser who meets with the student to develop a proposed program that uses the outline below as a guide. This proposed degree program indicates the specific courses the student intends to take (including appropriate courses from other units of the university), the credits that are being transferred from other institutions (if any), anticipated dates of residency, etc. (Forms are available in the department office and electronic versions are available.) The proposed degree program must be filed within the first 18 credits of coursework and must be approved by the student's academic adviser, the department chair, and the associate dean. Although the proposed degree program may be modified, it provides a blueprint for study and encourages students to think early on about the directions they wish to pursue and the preparation they need in order to carry out their dissertations.

Students may change their academic advisers if and when they identify faculty members whose interests are more consistent with their own. Please note, however, that the proposed degree program should be developed with the academic adviser with whom the student will be continuing to work. It should also be noted that the academic adviser is not necessarily the faculty member who serves as the student's dissertation adviser.

Education Requirements:

I. Foundations of Education (9 credits from at least three of the following four areas)

A. learning in a content area other than mathematics education

B. policy and leadership

C. social and philosophical foundations

D. psychological foundations

II. Mathematics Education and Mathematics (30 credits, including courses in mathematics and mathematics education at or above the 300 level)

Required courses include:

A. 15:254:540 Introduction to Mathematics Education (3)

16:300:563 Video Data Methodology (3)

16:300:661 Seminar in Mathematics Education Research (3)

B. 15:254:644 Mathematics Education Practicum (9) (The practicum laboratory/fieldwork experience is designed to prepare students for prethesis research.)

III. Research Methodology(9 credits, including 3 each in quantitative and qualitative methods and 6 in mathematics education, of which 3, beyond the required courses listed, can count toward the 30 credits noted above)

Qualifying Examination: Students will pass an examination evaluated by a faculty committee consisting of at least two members, at least one of whom is involved in the student's program of study. The qualifying exam has four components: 1) a research component to be completed at home over a specified time; 2) a three-hour mathematics exam; (3) a three-hour mathematics education exam; and 4) a literature review in the field of anticipated research.

Dissertation Candidacy: Students will be admitted to dissertation candidacy by the faculty after successfully completing the above requirements.

Dissertation (24 credits): 15:250:701 Dissertation Study: Learning and Teaching (BA). After admission to candidacy, the candidate will propose and complete a doctoral dissertation in the area of concentration. Dissertations can be either basic or applied research. Alternative formats, such as published papers and CDs and/or videotapes with accompanying papers, will be piloted and evaluated as potential dissertation projects.

The dissertation committee will consist of at least three members approved by the department chair and the mathematics education program. At least two committee members, including the chair of the dissertation committee, will be members of the Graduate School of Education faculty, and at least one committee member will be a member of the mathematics education program. At least one committee member will be from outside the Department of Learning and Teaching.

Summary of Credits:

Foundations of education	9 credits
Mathematics and mathematics education	30 credits
Research methodology	9 credits
Dissertation study	24 credits
TOTAL	**72 credits**

Please Note:

1. Admissions: Highly qualified students who demonstrate potential for outstanding leadership in the practice and/or research in mathematics education will be admitted.

Successful applicants must have:

a. a baccalaureate (or the equivalent) in pure or applied mathematics;
b. an undergraduate and (if applicable) graduate GPA of at least 3.0 (on a scale of 4.0);
c. strong performance on the Graduate Record Examination, and (if international) a TOEFL score indicating strong English language proficiency;
d. a personal statement reflecting prior experience or interest in educational leadership or research that

contributes to effective educational practice; and
e. three letters of recommendation from former professors, employers, or school personnel attesting to potential for research and leadership.

2. Students must maintain a cumulative GPA of at least 3.25 during doctoral coursework and dissertation research courses.

3. Students may petition the faculty to transfer up to 18 graduate credit hours of coursework taken elsewhere to meet partially the requirements for this degree.

4. The proposed program for the degree will be approved by the mathematics education program adviser and the chair of the Department of Learning and Teaching.

5. Time limits: Students have seven years from the time of admission to complete coursework and qualifying examinations, and a total of 10 years to complete all requirements.

Programs in the Department of Learning and Teaching (GSE)

Ed.D. in Science Education

Ed.D. in Science Education

Coordinator: Eugenia Etkina (848-932-0783; Email: eugenia.etkina@gse.rutgers.edu)

Program Description: The doctoral program in science education is intended for education professionals who wish to study learning and teaching in the area of science education. The program is appropriate for individuals who want to pursue a career as college or university faculty in science education, as curriculum developers and evaluators, leaders of teacher education and professional development, and instructional leaders in schools or other informal science environments. Students will have opportunities to develop expertise in science education in general and to specialize deeply in a particular science content domain. Program faculty members have expertise in physics, biological science, and earth sciences.

The goals of the program are to provide students with broad competencies in:

1. Teaching - teacher thinking and learning in both preparation and professional development programs
2. Learning - student learning in science with a focus on the development of scientific practices, discourse, and epistemology
3. Learning environments - the design, implementation, and evaluation of formal and informal learning environments for science education

Program goals follow from the philosophy that: 1) students actively construct and evaluate knowledge claims; 2) science learning is situated in sociocultural and epistemic contexts; and 3) mediation of learning employing quality assessments is critical.

The doctoral program in science education incorporates the following areas of study: 1) research on science teaching, learning, and policy; 2) foundations of scientific inquiry; 3) cognitive and social psychology; 4) computer-supported learning; 5) advanced study in science; and 6) research methodologies.

When an applicant is accepted into the doctoral program, he or she is assigned an academic adviser. Within the first or second semester, the student and adviser meet to develop a proposed program of study. This proposed degree program is guided by the courses listed below but may vary depending on individual interests and goals. The proposed degree program indicates the specific courses for the plan of study, the credits that are being transferred (if any), and the anticipated dates of residency and dissertation research. Degree program forms are available in the department office.

The proposed degree program must be filed within the first 18 credits of coursework and must be approved by the student's academic adviser, the department chair, and the associate dean. Although the proposed degree program may be modified, it provides a road map for study and encourages students to think early on about the directions they wish to pursue and the preparation they need in order to carry out dissertation research.

Students may choose to change academic advisers if and when they identify faculty members whose interests are more consistent with their own. Please note, however, that the proposed degree program should be developed with the academic adviser with whom the student will be continuing to work. It should also be noted that the academic adviser is not necessarily the faculty member who serves as the student's dissertation adviser.

Education Requirements:

The goal of the science education doctor of education (Ed.D.) degree program is to develop knowledgeable leaders and critical thinkers in formal or informal P-16 science education domains. Graduates will be prepared to engage at the interface of research and practice, capable of providing important information regarding research and policy developments in science education to educators, policymakers, and the general public.

I. Foundations of Education (9 credits, with minimum of 3 in each area)
The 9 credits will be outside the student's area of specialization.

A. learning in a content area other than science education
B. policy and leadership
C. social and philosophical foundations
D. psychological foundations

II. Science Education
(30 credits of work in the candidate's basic research area with some work in closely associated areas are required. Additional credits in science education can be taken within or outside the Graduate School of Education [GSE]. Adviser's approval is required for elective courses.)

A. Area of Specialization:

15:256:550 Biology and Society (3)
15:256:551 Development of Ideas in Physical Science (3)
15:256:552 Teaching Physical Science (3)
15:256:553 Teaching Life Science (3)
15:256:555 Research Internship in Science Education (3)
15:256:556 Understanding Evolution: A Classroom Perspective (3)
15:256:557 Multiple Representations in Physical Science (3)

15:256:650 Seminar in Science Education Research I (3)
15:256:651 Seminar in Science Education Research II (3)
15:256:655 Independent Study in Science Education (leading to a qualifying paper) (BA)

B. An additional 12 credits taken in science education or in relevant areas within or outside the GSE. Elective courses require adviser's approval.

III. Research Methodology (9 credits, with courses in two of the following three areas) The existing approved research courses will be used as well as new courses designed in the future.

A. quantitative foundations
B. qualitative foundations
C. program evaluation

Qualifying Examination: There are two components to the qualifying examination--written and oral presentation. A written examination prepared by the adviser and appointed faculty should be completed near the midpoint of the candidate's program of study. The exam is strongly aligned with the candidate's program of study and research interests. The oral presentation will be a report of the candidate's dissertation proposal.

Dissertation(24 credits): 15:250:701 Dissertation Study: Learning and Teaching (BA) (Note: no more than 12 credits for dissertation study may be taken before the successful completion of the qualifying examination.)

The candidate writes a dissertation following guidelines provided by the dissertation committee. The candidate and adviser select the dissertation committee. Research topics should be directed at current developments in science education practice and/or policy and make an original, meaningful contribution to the field. The dissertation will require students to do a research project aimed at informing educational practice. The investigation must be based on current research and theory, but may be directed to policymakers in a specific context rather than to the larger field.

The dissertation committee consists of at least three members approved by the program faculty and department chair. The chair of the dissertation committee must be a member of the Graduate School of Education, and at least one committee member must be a member of the student's program. At least two committee members must be Rutgers faculty members; at least one must be from outside the student's department.

Summary of Credits

Foundations of Education 9 credits

EC/Elementary Education 30 credits

Research Methodology 9 credits

Dissertation Study 24 credits

TOTAL CREDITS 72 credits

Please Note:
1. Students must maintain a cumulative GPA of at least 3.25 in the doctoral coursework and dissertation research courses.

2. Students may petition the faculty to transfer up to 18 graduate credits of coursework taken elsewhere to partially meet these requirements. Transfer of credits is not guaranteed, and it must be demonstrated that the course meets the specific goals of the program. Transfer courses used to fulfill core program requirements should have content equivalent to these courses. The faculty will review each petition and decide if the coursework taken elsewhere meets the standards of courses sponsored by the Ed.D. program.

3. Degree programs will be approved by both the student's program adviser and by the chair of the department.

Time Limits: Students have seven years from the time of admission to complete coursework and qualifying examinations, and they will have a total of 10 years to complete all requirements.

Doctor of Education (Ed.D.) Programs - For Students Entering in or subsequent to 2010 (GSE)

DOCTOR OF EDUCATION (ED.D.) PROGRAMS - FOR STUDENTS ENTERING IN OR SUBSEQUENT TO 2010

This chapter covers those Ed.D. programs available to students entering after 2010. Students who matriculated prior to 2010 should see the chapter on Doctor of Education (Ed.D.) Programs - For Students Entering before 2010.

Concentration in Design of Learning Environments (GSE)

CONCENTRATION IN DESIGN OF LEARNING ENVIRONMENTS

Coordinator: TBD

Please see the website.

Program Description: The goal of this concentration is to educate students on the "science" of designing learning environments/contexts and on the principles, frameworks, and theories of learning that undergird the design of learning environments. This concentration will prepare students to engage in the various aspects of design and evaluation. The concentration is intended for individuals who have a particular focus on the design of learning contexts and interventions in a wide range of settings from formal to informal, in-person to online, and that may benefit from the use of tools that include collaboration and technology. This includes individuals who work in museums or libraries, are extension educators (4-H), educators in other informal environments, corporate training staff, education software designers, classroom teachers, district curriculum developers, teacher educators, or various higher education professionals.

Education Requirements (72 credits):

Core Courses (24 credits)

15:255:611 Leadership I: Leadership in Schools and Communities (3)

15:255:612 Leadership II: Change Process (3)

15:255:615 Social Contexts I: Sociocultural Foundations of Education (3)

15:255:617 Social Contexts II: History of School Reform in America (3)

15:255:606 Learners and Learning I: Key Principles of Learning (3)

15:255:607 Learners and Learning II: Adult Learning and Training (3)

15:255:603 Inquiry I: Introduction to Methods and Uses of Inquiry (3)

15:255:602 Inquiry II: Program Evaluation (3)

Concentration Courses (15 credits)

Required:

15:262:603 Design of Learning Environments (3)

15:262:610 Design-Based Research (3)

15:262:625 Design Research Practicum (3)

Additional courses (students choose two):

15:262:620 Learning in Informal Contexts (3)

15:262:622 Cognition, Collaboration, and Technology (3)

15:295:510 Cooperative and Collaborative Learning (3)

15:295:620 Problem-Based Learning (3)

Specialization Courses (9 credits)

Courses should be chosen in consultation with adviser.

Dissertation (24 credits)

Concentration in Education, Culture, and Society (GSE)

CONCENTRATION IN EDUCATION, CULTURE, AND SOCIETY

Coordinator: Tanja Sargent (848-932-0732; Email: tanja.sargent@gse.rutgers.edu

Please see the website.

Program Description: This concentration is designed to attract a diverse cohort of students who desire systematic and rigorous advanced study of theoretical and practical issues of social and educational equity, change and reform. The intended audience for this concentration is school and higher education leaders, reformers, policy-makers and teachers. The goal is to enact improvements to practice and thus to improve the process of education. Students in this concentration will be challenged to understand and use research and data effectively in meeting the problems of practice, particularly those related to equity and social justice.

Education Requirements (72 credits):

Core Courses (24 credits)

15:255:611 Leadership I: Leadership in Schools and Communities (3)

15:255:612 Leadership II: Change Process (3)

15:255:615 Social Contexts I: Sociocultural Foundations of Education (3)

15:255:617 Social Contexts II: History of School Reform in America (3)

15:255:606 Learners and Learning I: Key Principles of Learning (3)

15:255:607 Learners and Learning II: Adult Learning and Training (3)

15:255:603 Inquiry I: Introduction to Methods and Uses of Inquiry (3)

15:255:602 Inquiry II: Program Evaluation (3)

Required Concentration Courses (9 credits)

Required of all students

15:310:551 Education and Society (3)

Two courses from among the following:

15:230:609 Leading for Social Justice (3)

15:257:569 Making Citizens: Civic Identity, Learning, and Action (3)

15:310:503 Comparative Education (3)

15:310:512 Race, Ethnicity, and Inequality in Education (3)

15:310:540 Gender and Education (3)

15:310:542 Urban Education (3)

15:310:561 History of African-American Education (3)

15:310:568 Migration, Globalization, and Education (3)

15:310:569 Queer Issues in Schools (3)

16:300:541 Economics of Education (3)

16:507:535 History of Higher Education (3)

Methods Courses (6 credits)

16:300:509 Qualitative Research Methods I (3)

16:300:513 Qualitative Research Methods II (3)

OR by advisement from among the following alternate options:

15:291:531 Statistics I (3)

16:300:515 ANOVA (3)

15:291:532 Statistics II (3)

16:300:519 Regression (3)

16:920:541 Statistical Methods in Sociology I (3)

16:300:511 Quantitative Methods I (3)

16:920:542 Statistical Methods in Sociology II (3)

16:300:647 Historical Research Methods (3)

15:230:615 Assessment, Data, and Problem-Solving (3)

Three electives from within or outside the Graduate School of Education (9 credits)

Dissertation (24 credits)

Concentration in Educational Leadership (GSE)

CONCENTRATION IN EDUCATIONAL LEADERSHIP

Coordinator: Melinda Mangin (848-932-0723; Email: melinda.mangin@gse.rutgers.edu)

Please see the website.

Program Description: Students in the concentration in Teacher Leadership within the Ed.D. in Education learn how to design research-informed professional development and teacher learning opportunities and gain specific experiences in their focus area, whether that be science, literacy, early childhood/elementary education, language education, social studies education, mathematics education, special education, or another area.

The intended audience for this concentration is people who are, or will be either working as teacher educators in a college or university setting or who are responsible for professional development of educators in some kind of educational setting, such as a teacher leader, curriculum coach, coordinator of curriculum and instruction, or a subject area coordinator as well as principals or other kinds of leaders of organizations who want to know more about professional development and practitioner educational opportunities that lead to sustained change and improvement.

Education Requirements:

Part I. Core Courses (24 credits)

15:255:611 Leadership I: Leadership in Schools and Communities (3)

15:255:612 Leadership II: Change Process (3)

15:255:615 Social Contexts I: Sociocultural Foundations of Education (3)

15:255:617 Social Contexts II: History of School Reform in America (3)

15:255:606 Learners and Learning I: Key Principles of Learning (3)

15:255:607 Learners and Learning II: Adult Learning and Training (3)

15:255:603 Inquiry I: Introduction to Methods and Uses of Inquiry (3)

15:255:602 Inquiry II: Program Evaluation (3)

Part II. Concentration Courses (24 credits)

15:230:604 Leading Educational Organizations (3)

15:230:609 Leading for Social Justice: Navigating Through Policy, Politics, and the Law (3)

15:230:624 Leading for Instructional Equity (3)

Electives (with advisor approval)

Elective 1 (research methods) (3)

Elective 2 (3)

Elective 3 (3)

Elective 4 (3)

Elective 5 (3)

Part III. Capstone/Dissertation (24 credits)

Concentration in Special Education (GSE)

CONCENTRATION IN SPECIAL EDUCATION

Coordinator: Matthew Mayer (848-932-0843; Email: matthew.mayer@gse.rutgers.edu)

Please see the website.

Program Description: The concentration in Special Education within the Doctor of Education program is designed to prepare leadership personnel in special education for the following roles:

- administrators of special education services in schools;
- teacher educators at colleges and universities;
- teacher leaders among school faculty; and
- leaders in allied service agencies and organizations.

Potential participants in this concentration might include those aspiring to become special education supervisors as well as principals or other educational leaders who want to further develop expertise in special education. The guiding principles of this concentration are:

- commitment to improving educational practices for students with disabilities and other at-risk students;
- grounding in evidence-based practice;
- focus on challenges of real-world educational settings;
- leveraging of doctoral students' experiences within courses;
- flexible course schedule meeting individual student needs;
- balanced development of knowledge, strategies, and skills;
- strong mentorship support from faculty;
- Ed.D. student voice in program and course enhancements; and
- expertise in special education.

This program does not include coursework leading to a New Jersey school personnel license.

Education Requirements (72 credits):

The Ed.D. program is comprised of three interrelated program components--the core, a concentration, and a dissertation/capstone experience.

Core Courses (24 credits)

15:255:611 Leadership I: Leadership in Schools and Communities (3)

15:255:612 Leadership II: Change Process (3)

15:255:615 Social Contexts I: Sociocultural Foundations of Education (3)

15:255:617 Social Contexts II: History of Educational Reform (3)

15:255:606 Key Principles of Learning--Learners and Learning (3)

15:255:607 Learners and Learning II (Adult Learning) (3)

15:255:603 Inquiry I (3)

15:255:602 Inquiry II (3)

Concentration Courses (24 credits)

The special education concentration is comprised of 12 credits of core coursework, 3 credits of methodology, 3 credits of teacher leadership coursework, and 6 credits of specialization courses.

15:293:605 Seminar in Special Education (3)

15:293:630 Current Topics in Special Education (3)

15:293:615 Designing Interventions and Measuring Outcomes in Special Education (3)

15:293:633 Internship in Special Education (3)

Methodological elective (3)

Teacher Leadership elective (3)

Specialization course (3)

Specialization course (3)

Capstone/Dissertation (24 credits)

The Ed.D. culminates with a yearlong dissertation experience. The dissertation requires students to identify and investigate a problem of practice systematically using current literature and inquiry methodology. Students are to write a final report that is presented publicly that may include a conference presentation, journal article or book chapter, or presentation to a local community. Students will have the option of working on their dissertation projects individually or in groups organized around key topics of interest.

Concentration in Teacher Leadership (GSE)

CONCENTRATION IN TEACHER LEADERSHIP

Coordinator: Sharon Ryan (848-932-0808; email: sharon.ryan@gse.rutgers.edu)

Please see the website.

Program Description: Students in the concentration in teacher leadership within the Ed.D. in education learn how to design research-informed professional development and teacher learning opportunities and gain specific experiences in their focus area, whether that be science, literacy, early childhood/elementary education, language education, social studies education, mathematics education, special education, or another area.

The intended audience for this concentration is people who are, or will be, either working as teacher educators in a college or university setting or who are responsible for professional development of educators in some kind of educational setting, such as a teacher leader, curriculum coach, coordinator of curriculum and instruction, or a subject area coordinator, as well as principals or other kinds of leaders of organizations who want to know more about professional development and practitioner educational opportunities that lead to sustained change and improvement.

Education Requirements (72 credits):

Core Courses (24 credits)

15:255:611 Leadership I: Leadership in Schools and Communities (3)

15:255:612 Leadership II: Change Process (3)

15:255:615 Social Contexts I: Sociocultural Foundations of Education (3)

15:255:617 Social Contexts II: History of School Reform in America (3)

15:255:606 Learners and Learning I: Key Principles of Learning (3)

15:255:607 Learners and Learning II: Adult Learning and Training (3)

15:255:603 Inquiry I: Introduction to Methods and Uses of Inquiry (3)

15:255:602 Inquiry II: Program Evaluation (3)

Concentration Courses (9-12 credits)

15:267:604 Models of Professional Development and Change (3)

15:267:610 Educating Teachers (3) (optional)

15:267:618 Teacher Leadership Inquiry (3)

15:267:622 Teacher Leadership: Theory and Practice (3)

Specialization Courses (12-15 credits)

Courses should be chosen in consultation with adviser.

Dissertation (24 credits)

Master of Education (Ed.M.) Programs with No State Certification (GSE)

MASTER OF EDUCATION (ED.M.) PROGRAMS WITH NO STATE CERTIFICATION

Programs in the Department of Educational Psychology with No State Certification
Programs in the Department of Educational Theory, Policy, and Administration with No State Certification
Programs in the Department of Learning and Teaching with No State Certification

Programs in the Department of Educational Psychology with No State Certification (GSE)

PROGRAMS IN THE DEPARTMENT OF EDUCATIONAL PSYCHOLOGY WITH NO STATE CERTIFICATION

Programs of study vary widely and are described in the links below within program categories. In general, emphasis at the master's level is placed on the preparation of educators capable of relating a foundational background in psychology to their professional functions. Research training is a component of all graduate programs.

Programs in the Department of Educational Psychology with No State Certification (GSE)

Ed.M. in College Student Affairs - Full-Time Track

Ed.M. in College Student Affairs - Full-time Track

Coordinator: Dr. Stephanie Brescia (Email: stephanie.brescia@gse.rutgers.edu)

Please visit the website.

Program Description: The 39-credit master's degree program in college student affairs (CSA) prepares students to enter professional positions in student affairs at a variety of post-secondary institutions. Learning opportunities for students include combinations of classroom instruction, project-based learning, field experiences, internships, and individualized learning. CSA students pursue a rigorous program of academic study combined with practicum and internship experiences that enable them to focus on their particular areas of interest or gain experience across a variety of student affairs programs.

The CSA program has an applied focus: the integrated learning experience helps students develop the requisite knowledge, skills, and work experience to be successful student affairs professionals and leaders. Student affairs professionals work directly with students in a wide range of specialty areas that include, but are not limited to: housing and residence life, campus unions or student centers, student activities, volunteer student services, educational programming, counseling and advising, career development and placement, new student orientation,

admissions and enrollment management, services for students from underrepresented groups, retention programs, assessment offices, parent and family programs, student judicial programs, service learning, academic advising, disability services, fraternity and sorority affairs, campus recreation programs, veterans services, cultural centers, and health and wellness services.

Students enrolling in the program as full-time students complete a total of 42 credits. Full-time students are expected to maintain full-time enrollment while being employed in an approved graduate internship.

Course of Study

Required core (33 credits)

15:230:606 Higher Education Law (3)

15:230:620 Organization and Administration of Higher Education (3)

15:245:501 Introduction to Student Affairs (3)

15:245:502 Student Development and Learning: Theory and Research (3)

15:245:601 Field Experience (6)

15:245:641 Diverse Perspectives in Higher Education (3)

15:245:603 Introduction to Assessment, Evaluation, and Research (3)

15:245:604 Capstone Course (3)

15:245:605 Internship Seminar (3)

Electives (9 credits)

Electives are chosen in consultation with faculty adviser. Six out of the 9 credits must be Special Topics in College Student Affairs courses. These electives may include:

15:245:640-645 Special Topics in College Student Affairs (1.5-3)

15:245:602 Student Leadership, Workshop, and Program Development (3)

15:245:601 Field Experience (with faculty adviser's approval) (3)

15:295:580 Psychology of Learning (3)

15:297:501 Introduction to Counseling and Interview Skills (3)

15:297:505 Group Counseling: Theory and Practice (3)

15:297:507 Multicultural Issues (3)

Ed.M. in College Student Affairs - Part-Time Executive Management Track

Ed.M. in College Student Affairs - Part-Time Executive Management Track

Coordinator: Dr. Stephanie Brescia (Email: stephanie.brescia@gse.rutgers.edu)

Please visit the website.

Program Description: The master's degree program in College Student Affairs (CSA) prepares students for professional positions in student affairs at a variety of post-secondary institutions. Learning opportunities for students include combinations of classroom instruction, project-based learning, and individualized learning.

The CSA program has an applied focus: the integrated learning experience helps students develop the requisite knowledge, skills, and work experience to be successful student affairs professionals and leaders. Student affairs professionals work directly with students in a wide range of specialty areas that include, but are not limited to: housing and residence life, campus unions or student centers, student activities, volunteer student services, educational programming, counseling and advising, career development and placement, new student orientation, admissions and enrollment management, services for students from underrepresented groups, retention programs, assessment offices, parent and family programs, student judicial programs, service learning, academic advising, disability services, fraternity and sorority affairs, campus recreation programs, veterans services, cultural centers, and health and wellness services.

Students may enroll in the full-time or part-time track, completing a total of 30-39 credits. Full-time students are expected to maintain full-time enrollment while being employed in an approved graduate internship. The part-time executive management track is open to entry- and mid-level professionals working in student affairs who are looking to obtain their master's degree in the field. Applicants seeking admissions as part-time students must be currently employed full time in student affairs (or a closely related field) by an accredited post-secondary institution.

Part-Time Executive Management Track

The 30-credit master's degree program in College Student Affairs-Executive Management Concentration (CSA-EMC) prepares students for professional positions in student affairs at a variety of post-secondary institutions. Learning opportunities for students include combinations of classroom instruction, project-based learning, field experiences, internships, and individualized learning. The CSA-EMC allows full-time, mid-level to senior student affairs professionals to complete the program as part-time students. On-going full-time professional employment in student affairs will meet the program's aims to combine practice with coursework.

Education Requirements:

Required Core (21 credits)

15:230:606 Higher Education Law (3)

15:230:620 Organization and Administration of Higher Education (3)

15:245:501 Introduction to Student Affairs (3)

15:245:502 Student Development and Learning: Theory and Research (3)

15:245:641 Diverse Perspectives in Higher Education (3)

15:245:603 Introduction to Assessment, Evaluation, and Research (3)

15:245:604 Capstone Course (3)

Electives (9 credits)

Electives are chosen in consultation with faculty adviser. Six out of the 9 credits must be Special Topics in College Student Affairs courses. These electives may include:

15:245:640-645 Special Topics in College Student Affairs (1.5-3)

15:245:602 Student Leadership, Workshop, and Program Development (3)

15:295:580 Psychology of Learning (3)

15:297:501 Introduction to Counseling and Interview Skills (3)

15:297:505 Group Counseling: Theory and Practice (3)

15:297:507 Developing Multicultural Competencies: A Systems Approach (3)

15:297:510 Career Counseling and Development (3)

Application Requirements

Completed application materials for the part-time college student affairs program may be submitted electronically via the Graduate Admissions website. Applications are accepted for fall or spring admission. The application deadline is December 15 for the fall start date, and October 15 for the spring start date; all application materials must be received by the deadline. Applicants for admission must have an earned bachelor's degree from an accredited college or university; competitive applicants have a 3.0 or higher undergraduate GPA. In addition, all applicants must submit:

· Official transcripts of all undergraduate and graduate coursework

· A personal statement. Applicants should tailor their personal statements to reflect integration of their professional goals, their professional experience in student affairs, and their interest in the CSA program.

· Résumé

· Three letters of recommendation. At least one must come from a faculty member and at least one must be from a student affairs professional. The third letter may be from another faculty member, another student affairs professional, an academic or student organization adviser, or a work supervisor.

Additionally, part-time applicants:

· Must be currently employed full time as a student affairs professional by an accredited college or university.

· Must commit to completing all the required coursework specified in a timely manner.

Ed.M. in Counseling Psychology

Ed.M. in Counseling Psychology

WE ARE NOT ACCEPTING APPLICATIONS TO THIS PROGRAM AT THIS TIME

Coordinator: Kathy Shoemaker (848-932-0820; Email: kathy.shoemaker@gse.rutgers.edu)

Please visit the website.

Program Description: The master's program in counseling psychology is designed to prepare individuals for admission to doctoral-level training programs in professional psychology. Since most courses are offered in the late afternoon and evening hours, both full and part-time study are possible.

The 33-credit master's program in counseling psychology meets the needs of prospective applicants to doctoral training programs in professional psychology by:

1. Providing an opportunity for students from diverse cultural, educational, and personal backgrounds to demonstrate competence in graduate-level courses required by doctoral programs in professional psychology;
2. Encouraging students to explore the professional specialty of counseling psychology.
3. Learning more about the role of the professional psychologist as one that applies psychological principles to help individual, group, or institutional clients with the development of human potential and the prevention and remediation of human problems.

Note: This program does not include coursework resulting in New Jersey licensure for either mental health counseling or school counseling.

Education Requirements

1. Counseling Psychology Core (9 credits)

Required Courses (6 credits):

15:297:501 Introduction to Counseling and Interview Skills (3)

15:297:505 Group Counseling: Theory and Practice (3)

Electives (3 credits):

15:297:510 Career Counseling and Development (3)

15:297:507 Multicultural Issues (3)

15:297:508 Family Systems Development (3)

2. Basic Psychology Core (9 credits)

(Courses from Educational Psychology [290] or Learning, Cognition, and Development [295] course listings. Ideally, a course in human development or in learning or cognition should be taken.)

3. Educational Statistics, Measurement, and Evaluation Core (9 credits)

15:291:515 Psychometric Theory I (3)

15:291:531 Statistical Methods I (previously 16:960:531) (3)

15:291:532 Statistical Methods II (previously 16:960:532) (3)

4. Electives (6 credits)

(Counseling psychology courses [297] may be taken to satisfy elective requirements)

Total: 33 Credits

Note: The Ed.M. program in counseling psychology does not require fieldwork/practicum training. Students should be aware that they may be less competitive for professional psychology programs without fieldwork/practicum experience.

Programs in the Department of Educational Psychology with No State Certification (GSE)

Ed.M. in Educational Statistics, Measurement, and Evaluation

Ed.M. in Educational Statistics, Measurement, and Evaluation

Coordinator: Ann O'Connell (Email: ann.oconnell@gse.rutgers.edu)

Please visit the website.

Program Description: The master's degree program in educational statistics, measurement, and evaluation (ESME) enables students to take a broad spectrum of courses within and outside the specialty area. The program **does not** require an extensive background in mathematics. An applicant for the program, however, should be comfortable in researching and solving educational and psychological problems using quantitative methods. Students who receive the Ed.M. are often employed as researchers or data analysts in the fields of social science research, educational testing, marketing research, or pharmaceutical research. The program is individually tailored to students' needs, and attempts to provide maximum flexibility by encouraging students to pursue a minor area outside of the specialty. A total of 33 credits is required.

Education Requirements:

Statistics and Measurement Courses (18 credits)

15:291:531 Statistical Methods I (3)

15:291:532 Statistical Methods II (3)

16:300:515 Quantitative Research Methods in Education: ANOVA (3)

16:300:519 Quantitative Research Methods in Education: Regression (3)

15:291:515 Psychometric Theory I (3)

16:300:683 Applied Multivariate Analysis or 16:300:685 Causal Modeling or 16:300:687 Item Response Theory (3)

Evaluation Course (3 credits)

15:291:520 Program Evaluation: An Introduction to Methods and Practice (3)

Electives in Minor Area (6 credits)

Grad level (3)

Grad level (3)

Electives from Department of Educational Psychology (6 credits)

Grad level (3)

Grad level (3)

Ed.M. in Learning, Cognition, and Development

Ed.M. in Learning, Cognition, and Development

Coordinator: Angela O'Donnell (848-932-0830; Email: angela.odonnell@gse.rutgers.edu)

Please visit the website.

Program Description: The master's program in Learning, Cognition, and Development (LCD) is intended for students wishing to study the psychology of human learning, cognition, and development as it applies to education. This program of study serves as an enriching theoretical background for the educational professional and/or as a foundation for further study at the doctoral level. The study of how human beings learn, think, and grow forms the academic core of a variety of educational careers and applied doctoral programs and allows the student with an interest in psychology to obtain a master's degree while keeping options open concerning future employment and/or possible doctoral training. Students matriculating in the program will benefit from a background in academic psychology. Students admitted without this background may need to elect more than the minimum of 30 credits. A completed research project is recommended for students planning to pursue doctoral work.

Education Requirements:

The program requires a minimum of 30 credits, including:

1. 9 credits of coursework in the department, to include each of the learning, cognition, and development emphases below. Students are required to take one of the courses marked with a single asterisk (*) in each area, unless they have taken an equivalent course at the undergraduate level. In such cases, students may select a more advanced course (from this list) with the approval of their program adviser.

Learning Courses (3 credits)

15:295:580 Psychology of Learning (3)*

15:295:510 Cooperative and Collaborative Learning (3)

15:295:550 Learning through Problem Solving (3)

15:295:590 Seminar in Learning, Cognition, and Development (with adviser approval)

15:295:620 Problem-Based Learning (3)

16:300:582 Cognition and Instruction (3) (with instructor and adviser approval)

16:300:691 Cognitive and Motivational (3)

Cognition Courses (3 credits)

15:295:502 Cognition and Memory (3)*

15:290:522 Cognition and Language from Birth to Age Eight: Normal Development and Implications for Risk and Disability (3)**

15:295:611 Memory Systems and Processes (3)

16:300:597 Language Acquisition (3)

16:300:691 Cognitive and Motivational Learning Strategies (3)**

Development Courses (3 credits)

15:290:521 Child, Family, and Community: Relationships in Development (3)

15:290:522 Cognition and Language from Birth to Age Eight: Normal Development and Implications for Risk and Disability (3)**

15:295:512 Introduction to Child Psychology: Infancy through Adolescence (3)*

15:295:590 Seminar in Learning, Cognition, and Development (3)**

16:300:581 Educational Psychology I: Theories of Development (3)

16:300:591 Cognitive Development (3)

2. 6 credits of electives within the learning, cognition, and development program. These electives allow students to engage in more in-depth study of an area of interest.

3. 6 credits in educational statistics or measurement (typically, 15:291:531,532).

4. 6 credits of electives other than courses with a 290 (educational psychology) or 295 (learning, cognition, and development) subject code.

5. 3 credits in either (1) a research project (15:295:609) completed in consultation with a faculty adviser; (2) a literature review (15:290:601) completed in consultation with a faculty adviser; or (3) a third 3-credit elective within learning, cognition, and development along with a writing experience requirement (the writing experience requirement involves submitting to the department a term paper of 15 pages or more with a grade of B+ or better from a learning, cognition, and development course). Students intending to pursue doctoral study should seek to enroll in 15:295:609 Research in Learning, Cognition, and Development under supervision of a Learning, Cognition, and Development faculty member.

*These courses are recommended for students with a minimal background in the area. Students whose undergraduate studies included these topics should seek more advanced classes in consultation with the adviser.
**These courses are listed in two categories. However, students may not use any single course to fulfill requirements in more than one category.

Programs in the Department of Educational Psychology with No State Certification (GSE)

Ed.M. in Learning, Cognition, and Development - Online

Ed.M. in Learning, Cognition, and Development - Online

Coordinators:

Lorraine McCune (848-932-0823; Email: lorraine.mccune@gse.rutgers.edu)
Angela O'Donnell (848-932-0830; Email: angela.odonnell@gse.rutgers.edu)

Please visit the website.

Program Description: The master's program in Learning, Cognition, and Development (LCD) is intended for students wishing to study the psychology of human learning, cognition, and development as it applies to education. This program of study serves as an enriching theoretical background for the educational professional and/or as a foundation for further study at the doctoral level. The study of how human beings learn, think, and grow forms the academic core of a variety of educational careers and applied doctoral programs and allows the student with an interest in psychology to obtain a master's degree while keeping options open concerning future employment and/or possible doctoral training. Students admitted without this background may need to elect more than the minimum of 30 credits. A completed research project is required of students planning to pursue doctoral work.

The online option is designed for students who would like to benefit from this program, but prefer to do so without coming to campus. It provides a specific set of courses in the Department of Educational Psychology, and some choices in electives that, taken in the recommended order, will allow completion of the entire program online in a two-year period. Currently available electives may yield a subspecialty in special education or in educational technology.

Education Requirements:

The program requires a minimum of 30 credits, including:

1. 9 credits of coursework in the department, to include each of the learning, cognition, and development emphases below. Students are required to take one of the courses marked with a single asterisk (*) in each area, unless they have taken an equivalent course at the undergraduate level. In such cases, students may select a more advanced course (from this list) with the approval of their program adviser.

Learning Courses (3 credits)

15:295:580 Psychology of Learning (3)*

15:295:510 Cooperative and Collaborative Learning (3)

15:295:620 Problem-Based Learning (3)

Cognition Courses (3 credits)

15:295:502 Cognition and Memory (3)*

15:290:522 Cognition and Language from Birth to Age Eight: Normal Development and Implications for Risk and Disability (3)**

15:295:611 Memory Systems and Processes (3)

16:300:597 Language Acquisition (3)

16:300:691 Cognitive and Motivational Learning Strategies (3)**

Development Courses (3 credits)

15:290:521 Child, Family, and Community: Relationships in Development (3)

15:290:522 Cognition and Language from Birth to Age Eight: Normal Development and Implications for Risk and Disability (3)**

15:295:512 Introduction to Child Psychology: Infancy through Adolescence (3)*

15:295:590 Seminar in Learning, Cognition, and Development (3)**

16:300:581 Educational Psychology I: Theories of Development (3)

16:300:591 Cognitive Development (3)

2. 6 credits of electives within the learning, cognition, and development program. These electives allow students to engage in more in-depth study of an area of interest.

3. 6 credits in educational statistics or measurement (typically, 15:291:531,532).

4. 6 credits of electives other than courses with a 290 (educational psychology) or 295 (learning, cognition, and development) subject code.

5. 3 credits in either (1) a research project (15:295:609) completed in consultation with a faculty adviser; (2) a literature review (15:290:601) completed in consultation with a faculty adviser; or (3) a third 3-credit elective within learning, cognition, and development along with a writing experience requirement (the writing experience requirement involves submitting to the department a term paper of 15 pages or more with a grade of B+ or better from a learning, cognition, and development course). Students intending to pursue doctoral study should seek to enroll in 15:295:609 Research in Learning, Cognition, and Development under supervision of a Learning, Cognition, and Development faculty member.

*These courses are recommended for students with a minimal background in the area. Students whose undergraduate studies included these topics should seek more advanced classes in consultation with the adviser.
**These courses are listed in two categories. However, students may not use any single course to fulfill requirements in more than one category.

Programs in the Department of Educational Psychology with No State Certification (GSE)

Ed.M. in Special Education

Ed.M. in Special Education

Coordinator: Dake Zhang (848-932-0821; Email: dake.zhang@gse.rutgers.edu)

Please visit the website.

Program Description: The master's degree program in special education provides advanced graduate preparation for both certified special and general education teachers.

The program **does not** include coursework to teacher certification in special education. Students with an earned bachelor's degree in a related field who are interested in initial teacher certification in special education should contact the Office of Student and Academic Services at 848-932-3232.

Coursework and internship experiences address the instructional needs of students with mild and moderate cognitive disabilities. The 36-credit program is composed of a special education core (18 credits); a learning, cognition, and development (LCD) requirement (6 credits); educational statistics, measurement, and evaluation courses (6 credits); and electives (6 credits).

The 18-credit special education core is required of all students. This core develops competencies in the assessment and remediation of students with learning disabilities, collaborative teaching/consultation skills, and knowledge about New Jersey special education law.

The program **does not** include coursework leading to New Jersey teacher certification in Special Education.

Education Requirements:

General Studies

Special Education Core (18 credits)

Required (12 credits)

15:293:522 Learning Disabilities (3)

15:293:525 Psychology of the Exceptional Child (3)

15:293:526 Identification and Assessment of Learning Disabilities (3)

15:293:527 Remediation of Learning Disabilities (3)

Two courses selected from the following (6 credits)

15:293:521 Intellectual and Developmental Disabilities (3)

15:293:529 Instructional Decision-Making in Special Education (3)

15:293:610 New Jersey Special Education Law (3)

15:293:630 Current Topics in Special Education (3)

Educational Statistics, Measurement, and Evaluation Core (6 credits)

15:291:515 Psychometric Theory I (3)

15:291:531 Statistical Methods I (3)

Learning, Cognition, and Development recommended (or other LCD courses approved by adviser) (6 credits)

15:290:583 Biological Bases of Behavior (3)

15:295:580 Psychology of Learning (3)

Electives outside of the special education program (6 credits, selected in consultation with an adviser)

Programs in the Department of Educational Psychology with No State Certification (GSE)

Ed.M. in Special Education with Applied Behavioral Analysis (ABA) Sequence

Ed.M. in Special Education with Applied Behavioral Analysis (ABA) Sequence

Coordinator: Dake Zhang (848-932-0821; Email: dake.zhang@gse.rutgers.edu)

Please visit the website.

Program Description: The master's degree program in special education with the Applied Behavior Analysis (ABA) sequence provides advanced graduate preparation in special education and enables students to take the coursework required to sit for the Board Certified Behavior Analyst (BCBA) exam. The program represents collaboration between the Graduate School of Education (GSE) and the Graduate School of Applied and Professional Psychology (GSAPP).

The 36-credit program is composed of a special education core (15 credits), an ABA core (18 credits), and an elective chosen in consultation with an academic adviser (3 credits).

The program **DOES NOT** include coursework leading to teacher certification in special education. The Association for Behavior Analysis International has verified our courses toward coursework requirements for eligibility to take the BCBA examination. Applicants will need to meet additional requirements before they can be deemed eligible to take the examination. Experience requirements are not currently included in this degree program.

Education Requirements:

The 36-credit program is composed of a special education core (15 credits), an ABA core (18 credits), and an elective chosen in consultation with an academic adviser (3 credits).

Accepted students will have five years to complete the program, from the beginning of any coursework to be counted toward the program.

Special Education Core (15 credits)

15:293:525 Psychology of the Exceptional Child (3)

15:293:522 Learning Disabilities (3)

15:293:509 Emotional and Behavioral Disorders (3)

15:293:523 Inclusive Teaching in Education (3)

15:293:534 Classroom Organization for Special Education (3)

BCBA Core (offered by GSAPP) (18 credits)

18:820:513 Basic Principles of Behavior Analysis (3)

18:820:512 Introduction to Analysis and Single Case Design (3)

18:820:521 Ethical Issues in Behavioral Analysis (3)

18:820:514 Applications of Behavior Analytic Principles: Changing Behavior (3)

18:820:517 Assessment and Treatment of Challenging Behavior (3)

18:820:516 Advanced Topics in Behavior Analysis: State-of-the-Art Teaching Strategies for Children with Autism and Related Disorders (3)

Electives (3 credits)

One elective from Educational Psychology (290), Learning, Cognition, and Development (295), or Counseling Psychology (297), with adviser's approval.

Note: A grade of B or better is required for all ABA core courses. The above courses will meet the requirements for the master's degree. An additional, seventh ABA course (18:820:522 Personnel Supervision and Management in ABA) must be taken to meet the academic requirements for eligibility to take the BCBA examination. Students will need to meet additional fieldwork experience requirements before they can be deemed eligible to take the examination. **This seventh course, as well as the experience requirements, are not currently included in this degree program.**

Programs in the Department of Educational Theory, Policy, and Administration with No State Certification (GSE)

PROGRAMS IN THE DEPARTMENT OF EDUCATIONAL THEORY, POLICY, AND ADMINISTRATION

Ed.M. in Educational Administration and Supervision (Option C - noncertification)

Ed.M. in Educational Administration and Supervision (Option C - noncertification)

Coordinator: Dr. Gail Verona (848-932-0626; Email: gail.verona@gse.rutgers.edu)

Please visit the website.

Program Description: This concentration is designed for students who wish to prepare for positions of leadership in public and private K-12 and higher education institutions that do not require administrator certification. The program builds on a foundation of coursework in educational administration and leadership and allows the opportunity to choose electives in specific areas of expertise.

To obtain a master of education degree in administration and supervision within elementary or secondary education, students must choose one of the following options. Option A (39 credits) meets the requirements for New Jersey principal and supervisor certification. Option B (36 credits) prepares students for the principal certification only. Option C (30 credits) prepares students who might not be interested in receiving such certification(s).

This Control Sheet pertains only to Option C

Required Courses (6 credits)

15:230:501 Leadership and Communication Skills in Educational Supervision (3)

15:230:609 Leading for Social Justice (3)

Educational Administration (15 credits)

15:230:507 Education Law (3)

15:230:514 Personnel Administration (3)

15:230:517 Diversity and Politics of Higher Education (3)

15:230:519 Higher Education Finance (3)

15:230:604 Organizational Theory in Education (3)

15:203:615 Assessment, Data, and Problem-Solving (3)

15:230:606 Higher Education Law (3)

15:230:620 Organization and Administration of Higher Education (3)

15:230:625 Policy for Urban Education (3)

16:310:502 History of American Education (3)

15:310:611 History of Higher Education (3)

Approved Electives (9 credits)

15:310:503 Comparative Education (3)

15:310:512 Race, Ethnicity, and Inequality in Education (3)

15:310:537 Ethics and Education (3)

15:310:540 Gender and Education (3)

15:310:561 History of African-American Education (3)

15:310:569 Queer Issues in Schools (3)

15:310:581 Special Issues in Higher Education (3)

Programs in the Department of Educational Theory, Policy, and Administration with No State Certification (GSE)

Ed.M. in Education, Culture and Society

Ed.M. in Education, Culture and Society

Coordinator: Tanja Sargent (848-932-0732; Email: tanja.sargent@gse.rutgers.edu)

Please visit the website.

Program Description: The Ed.M. in Education, Culture, and Society provides students with an opportunity for advanced study and research in education from the perspectives provided by the social sciences and humanities. In order to fulfill their requirements, students can take courses across the program or can opt to focus their studies in one of four area; Race and Ethnicity; Global Education, Queer and Gender Studies, or Educational Policy. Additional courses across the university are available to supplement the offerings in these four areas of study.

Students will:

- Develop perspectives critical to understanding education as a social process situated in political, historical, social, economic, and cultural contexts.
- Understand issues of social justice and equity in educative settings, informed by theory and research.

- Develop global and multicultural competencies.

Students will complete 30 credits to include the following:

Education Requirements:

Required Courses (9)

15:310:502 History of American Education (3) or 15:310:561 History of African American Education (3)

15:310:551 Education and Society (3)

15:310:512 Race, Empire and Education (3)

ECS Specialization Courses (12)

15:230:507 Education Law (3)

15:230:508 Education Policy Implementation (3)

15:230:609 Leading for Social Justice: Navigating Through Policy, Politics, and the Law (3)

15:230:618 Education Policy Analysis (3)

15:257:569 Making Citizens: Civic Identity, Learning and Action in diverse contexts (3)

15:310:503 Comparative Education (3)

15:310:540 Gender and Education (3)

15:310:542 Urban Education (3)

15:310:568 Migration, Globalization, and U.S. Education (3)

15:310:569 Queer Issues in Schools (3)

15:310:611 History of Higher Education I (3)

16:300:541 Economics of Education: Equity and Efficiency (3)

Electives (12)

To be taken in consultation with your adviser. At least 6 of these credits must be taken outside of Education, Culture, and Society. Qualified students can use their elective credits to obtain a non-degree supervisor endorsement or a range of other certificates at the GSE or across the university.

*Students have the option of completing a master's thesis by enrolling in 15:310:599 Master Thesis Research, but this is not a requirement.

**Students can take any selection of Education, Culture, and Society courses here in consultation with their adviser or they can choose to focus in a particular specialization.

Ed.M. in Social Studies Education

Ed.M. in Social Studies Education

Coordinators: Benjamin Justice (848-932-0679; Email: ben.justice@gse.rutgers.edu)

Please visit the website.

Program Description: The Ed.M. in social studies education without certification is a 30-credit program resulting in a master's degree. Most students choosing this option already have a teaching certificate and are interested in further study in social studies education. Many are actively teaching and continue their teaching careers while attending the program. This program is well suited to students with career interests in teaching, curriculum, and educational research at the elementary, secondary, and college levels who already have, or do not seek, state certification in K-12 education.

To complete the Ed.M. degree in social studies education, students must take a minimum of 30 credits in social studies, general education, and fields appropriate to social studies content. They must also pass a comprehensive exam. Course of study, including choices of electives and possible independent study, must be made with adviser approval.

This program does not include coursework leading to a New Jersey school personnel license.

Education Requirements:

Required Courses (18 credits)

Students must take the following:

15:257:560 Introduction to Social Studies Education (3)

15:257:561 Analysis of Social Studies Curricula (3)

One course from the following:

05:300:471 (G) Teaching Social Studies in the Elementary School (3)

05:300:472 (G) Materials and Methods in Social Studies (3)

15:251:575 Learning and Teaching in the Middle School (Social Studies) (3)

Three courses from the following:

15:310:502 History of American Education (3)

15:310:512 Race, Ethnicity, and Inequality of Education (3)

15:310:515 Philosophy of Education (3)

15:310:520 Sociological Foundations of Education (3)

15:310:531 Anthropology of Education (3)

15:310:540 Gender and Education (3)

Electives (12 credits)

Students must take four graduate elective courses as follows:

At least two courses (6 credits) within the Graduate School of Education (GSE)

Recommended courses:

15:257:568 Topics in Social Studies Education (3)

15:257:569 Making Citizens: Civic Identity, Learning, and Action (3)

At least two courses (6 credits) outside the GSE in fields related to social studies content. These can be upper-level undergraduate courses if taken for graduate credit. These content areas typically include, but are not limited to: Africana studies, anthropology, American studies, Latino and Caribbean studies, economics, geography, history, political science, and sociology.

Comprehensive Examination

All students are required to pass a comprehensive examination during the final semester of their study. This exam is crafted by program faculty to reflect the coursework of each individual student.

Programs in the Department of Learning and Teaching with No State Certification (GSE)

PROGRAMS IN THE DEPARTMENT OF LEARNING AND TEACHING

The following programs leading to the master of education degree are offered in the Department of Learning and Teaching:

Adult and Continuing Education

Dance Education

Early Childhood/Elementary Education*

Language Education**

Literacy Education

Mathematics Education

Science Education

Programs combine studies in general and professional education through coursework taken in various departments in the Graduate School of Education and in other schools and colleges of Rutgers University. Opportunities are available to integrate work with computers into various areas of special interest. A sample of the distribution of courses for these programs is provided as a guide. All master of education degree programs must include 6 credits outside the field of specialization. See specific program outlines (available in the department office) for exact requirements.

Sample Degree Requirements (Minimum of 30 Credits)

Area of Specialization (15 credits)

These 15 credits in the area of specialization may, with permission of the adviser, include courses in the department, the Graduate School of Education, and/or other branches of the university, as specified in the program outline for each specialization.

Courses Related to Individual Program with Approval of Adviser (9 credits)

Courses outside of Area of Specialization (6 credits)

*A specialization in creative arts education is available within the early childhood/elementary education program.
**Applicants for all degrees in language education should contact the department for additional entrance requirements.

Programs in the Department of Learning and Teaching with No State Certification (GSE)

Ed.M. in Adult and Continuing Education

Ed.M. in Adult and Continuing Education

Coordinator: Alisa Belzer (848-932-0778; Email: alisa.belzer@gse.rutgers.edu)

Please visit the website.

Program Objective

Graduates of this program will have a conceptual and practical understanding of learning in adulthood, including an appreciation for the needs of diverse adult learners in a range of learning and organizational contexts. Additionally, graduates will learn how to be effective learning facilitators and change agents who can build and sustain a learning organization and lead change efforts informed by organizational and learner data. Finally, they will be able to apply their knowledge of the adult learner to the design, implementation, and evaluation of a training designed to improve organizational performance through the development of learning solutions.

Program Outcomes

Students will:

- know the historical, philosophical, theoretical, and social roots of the field of adult education;
- understand the learning needs and characteristics of diverse adult learners;

- be able to plan, design, implement, and evaluate learning opportunities that are appropriate for adult learners in a variety of contexts;
- have the leadership skills to build and sustain a learning organization and guide organizational change efforts; and
- understand how to use data to inform planning and change initiatives.

Program Description

The Ed.M. program for adult and continuing education is designed for individuals working in educational, nonprofit, community-based, health care, and corporate settings who wish to develop the knowledge and skills for designing, implementing, assessing, and evaluating learning experiences in formal and informal settings for adults.

The 30-credit program is designed to develop conceptual and practical understanding of the adult learner, how to plan classes and programs that are best suited to meet the needs of adult learners, and how to create learning contexts that can encourage sustained learning and productive change in a variety of context in which adults learn.

Core Course Requirements (21 credits)

Foundational Courses (9 credits)

15:233:542 Introduction to Adult and Continuing Education (3)

15:233:543 Understanding the Adult Learner (3)

15:233:544 Learning and Teaching for Adults in Global Contexts (3)

Application Courses (12 credits)

38:578:543 Organizational Leadership and Change Management (3)

15:233:551 Creating, Managing and Growing ACE Programs (3)

15:233:569 Designing Training for Adults (3)

15:233:570 Applied Research in Adult Education: Planning, Assessing, and Evaluating Programs for Adults (3)

Areas of Specialization (9 credits)

Students may develop their skills and deepen their knowledge in one of four specialization areas by taking all 9 elective credits in one of the following areas or may take 9 credits of electives with no specialization.

Adult ESL and Literacy

15:233:563 ESL, Low Literacy, and the Adult Learner: Mapping the Field (3)

15:233:564 Effective Reading and Writing Instruction for Adult Basic Education Students (3)

15:233:565 Effective Reading and Writing Instruction for GED and Developmental College Students (3)

Educational Technology

15:255:503 Introduction to Teaching with Digital Tools (3)

15:255:504 Web-Based Multimedia Design for Educators (3)

15:255:506 Developing a Digital eLearning Environment (3)

Higher Education

15:233:566 Fundamentals of College Teaching (3)

15:233:567 College Course Design for Adults (3)

Human Resources Development

15:233:560 Foundations of Human Resources Development (3)

38:533:634 Developing Human Capital (3)

15:233:562 Human Resources Development: Profession and Practice (3)

Capstone Project

In addition to completing all course requirements, students are also required to complete a capstone project that demonstrates their ability to plan, design, and implement a significant adult learning opportunity specific to their area of specialty. The capstone will be part of course assignments in the final two courses of the program.

Hybrid Option

Students in the hybrid program must take at least one, on-campus, face-to-face class as an elective. All face-to-face classes selected must be approved by the program coordinator.

Programs in the Department of Learning and Teaching with No State Certification (GSE)

Ed.M. in Dance Education; Professional Teacher Advancement

Ed.M. in Dance Education: Professional Teacher Advancement

Director: Frederick Curry (848-932-1372; Email: fcurry@mgsa.rutgers.edu)

Please visit the website.

Program Description: The Ed.M. Dance Education Professional Teacher Advancement program is designed for experienced PK-12 educators who possess a baccalaureate degree and a NJDOE CEAS, Provisional, or Standard PK-12 teacher certificate (or qualified out-of-state certificate) and desire to earn a master's degree in dance education.

The goal of the program is to advance professional teachers as leaders of dance education within PK-12 schools and throughout the state/regional communities they serve, while also building a foundation for future doctoral and professional leadership study. The program has five supporting aims:

- To develop professional teacher-learners' knowledge of dance-as-art as an educational practice, scholarly field, policy landscape, and community of practice.

- To increase professional teacher knowledge about the pedagogy of teaching dance and how individual differences among children with respect to abilities and social, economic, and cultural backgrounds influence learning.
- To support professional teacher-learners in examining dance learning contexts for the potential to nurture identity formation, engender empathy, embrace diverse perspectives, engage interdisciplinary inquiry, and shape social transformation.
- To empower professional teacher-learners' as advocates of dance-as-art state mandates who strive to ensure educational equity for all PK-12 children.
- To cultivate professional teacher-learners' knowledge, skills, and dispositions in curriculum development, assessment, research, data-informed decision-making, and leadership, providing them with opportunities to reflect on and refine their own practice as well as lead professional development for pre-service and in-service dance and classroom educators.

DANCE SPECIALIZATION: Students must have completed a minimum of 30 credits in dance studies by the completion of the degree program; fulfillment of dance courses is nt required for admission into the program and may be completed co-requisitely during the master's degree program. Courses appearing on an undergraduate transcript that may satisfy these requirements must be comprehensive and representative of core artistic process content in dance, including knowledge and experience in Creating, Performing, Responding, and Historical/Cultural Inquiry as aligns with the New Jersey Core Curriculum Content Standards, Performing Arts - Dance and the New Jersey Professional Teaching Standard Four: Content Knowledge.

PROFESSIONAL CREDENTIALS: Applicants must posses a NJDOE CEAS, Provisional, or Standard PK-12 teacher certificate or qualified out-of-state certificate to be eligible for this degree program. A NJ CE certificate will not be accepted as a qualified teaching credential. Applicants holding a NJ CE must apply to the postbaccalaureate certification track 15207C.

PROGRAM REQUIREMENTS

Dance Pedagogy (18 credits)
07:207:405 Motor Learning and Control for Dance Pedagogy (3)
07:207:406 Introduction to Curriculum Design and Assessment for Dance (3)
07:207:407 Dance Technique Pedagogy (3)
07:207:408 Creative Dance and Choreography Pedagogy (3)
08:207:502 Embodied Dance History Pedagogy (3)
07:207:501 Teaching Concepts in Dance for Students with Special Needs (3)

Education Requirements (9 credits)
05:300:401 Individual and Cultural Diversity (3)
05:300:430 Principles of Second/Foreign Language Acquisition (3)
05:255:503 Teaching with Digital Tools **or** 05:300:350 Education and Computers (3)

Research and Leadership (7 credits)
08:207:595 [03] Grad Special Topics- Dance Assessment Project (1)
08:207:510 Introduction to Research in Dance Education (3)
08:207:511 Leadership in Dance Education (3)

Corequisites and/or Electives by Advisement (6 credits)

Requisite Requirements (9 credits)
Students must demonstrate evidence of coursework in each of the following areas by completion of the degree program. Courses appearing on an undergraduate transcript may satisfy these requirements. Fulfillment of these courses is not required for admission into the program and may be completed as co-requisites during the master's degree program.

07:206:402 Introduction to Laban Movement Analysis
05:300:307 Human Development: Infancy Through Early Adulthood
15:293:534 Classroom Organization for Inclusive and Special Classrooms

Programs in the Department of Learning and Teaching with No State Certification (GSE)

Ed.M. in Early Childhood / Elementary Education

Ed.M. in Early Childhood/Elementary Education

THIS PROGRAM IS NOT ACCEPTING NEW APPLICATIONS AT THIS TIME

Coordinator: Amy Lewis (848-932-0683; Email: amy.lewis@gse.rutgers.edu)

The master's program in early childhood/elementary education is intended for certified teachers who wish to continue their study of learning and teaching in early childhood/elementary settings or for those who wish to learn more about the field of early childhood/elementary education but do not plan on teaching in New Jersey and are not looking to get certified to teach.

The program has five major goals:

1) to foster a vision of learning as an active process in which students construct their own knowledge and understandings;

2) to foster a vision of teaching that promotes depth of understanding and problem-solving rather than mere curriculum coverage, and that recognizes children's individual and cultural differences;

3) to extend teachers' knowledge of current research and theory on learning and teaching so they can make informed decisions about educational practice and can help to bring about change in schools;

4) to encourage teachers to be teacher-researchers who reflect on and systematically inquire into their own practice; and

5) to provide an opportunity for teachers to acquire depth in an area of early childhood/elementary education that is of particular interest to them.

PROGRAM REQUIREMENTS

I. Psychological Foundations of Education (6 credits)

Two courses chosen from the following (or others, with advisement):
15:255:512 Enhancing Learning and Development for Infants and Young Children (3)
15:293:522 Learning Disabilities (3)

15:293:525 Psychology of the Exceptional Child (3)
15:295:510 Cooperative and Collaborative Learning (3)
15:295:512 Introduction to Child Psychology: Infancy through Adolescence (3)
15:295:521 Child, Family, and Community: Relationships in Development (3)
15:295:522 Cognition and Language from Birth to Age Eight: Normal Development and Implications of Risk and Disability (3)
16:300:591 Cognitive Development (3)
16:300:595 The Psychology of Sex Differences (3)

II. Early Childhood/Elementary Education (18 credits)

A. Required Courses (9 credits)
15:251:570 Advanced Pedagogical Techniques for the Elementary Classroom (3)
15:251:577 Historical and Contemporary Issues in Early Childhood Education (3), or
15:251:578 Theories and Practices in Early Childhood Education (3)

B. Area of Specialization (12 credits)
Courses for the area of specialization must be selected with advisement.
1. Content Area Study (in one or more of the following areas: creative arts education, literacy, English as a Second Language and bilingual education, instructional technology, mathematics education, and science education)
2. Early Childhood Education and Applied Child Development (focus on settings for children birth through age 7; child care, family and parenting issues; and developmentally appropriate practices)
3. Issues of Equity in Early Childhood/Elementary Education (focus on theory, content and pedagogy of a social justice approach to teaching in elementary and early childhood settings)

III. Electives (6 credits)

With adviser's approval, may be taken anywhere in the university.

IV. To demonstrate the achievement of the goals of the program the student, together with their adviser, will create a portfolio with the following components:

A. An explanation for how the courses and other relevant experiences (such as practicum) have promoted the goal/s set, and what the student has learned and taken away from these experiences. The student will write a reflective essay describing the key knowledge that he or she has developed in three broad areas:

1. early childhood education
2. elementary education
3. student's area of specialization

The essay should include references from relevant coursework taken throughout the student's program of study to support student claims as to their key areas of learning and why they are significant to the field of study and to the student's practice. This will introduce and set up the artifacts that will be presented in part B.

B. Students should provide relevant artifacts from coursework (and if appropriate, from practice) that demonstrate changes in knowledge, beliefs, and practice related to their identified goals. This may include assignments completed in courses, reflections on practicum experiences together with documentation, videotapes of classroom teaching, and artifacts from teaching experiences: lesson plans, student work, teaching evaluations. Each artifact

will include a reflection that discusses how the artifact demonstrates the knowledge that the student has developed in the program (see part A). The reflective essay should clearly indicate how this artifact demonstrates what the student has learned about their practice and what they still hope to change and develop.

C. A "future directions" plan that identifies areas for improvement including additional knowledge and skills the student wishes to develop. These may or may not be areas that the student addressed within Part B.

Taken as a whole, the portfolio should demonstrate deep knowledge of core topics (as related to the goals), and ability to synthesize and analyze research in early childhood and elementary education. The portfolio will be evaluated by the student's adviser and one other member of the program faculty. The student must obtain a passing grade on this portfolio assignment in order to fulfill the requirements for the degree. In the event that the student fails the portfolio requirement, she or he will have one opportunity to rewrite. If the portfolio fails a second time the student will be dismissed from the program.

Total Minimum credits: 30

Programs in the Department of Learning and Teaching with No State Certification (GSE)

Ed.M. in Language Education

Ed.M. in Language Education

Coordinator: Mary Curran (848-932-0790; Email: mary.curran@gse.rutgers.edu)

Please visit the website.

Program Description: The Ed.M. program in language education is designed to extend and diversify the professional preparation of certified teachers who seek to enhance their instructional skills and knowledge. The program also serves the needs of individuals who work in settings that do not require certification and are interested in a scholarly exploration of aspects of language education. The goal of the program is to provide students with a thorough understanding of the nature of language, the process of second language acquisition, the relationship between language and culture, and successful modes of second language instructional strategies.

(Note: this is a non-certification Ed.M. program. if certification is needed, see the catalog description for the Ed.M./Certification Program in ESL or the Ed.M./Certification Program in Language Education in ESL or Foreign Language).

The program in language education requires a minimum of 30 credits of study (no transfer credits permitted) beyond the baccalaureate degree. It provides for study in the area of linguistics, language pedagogy, and the cultural context of language education, as well as the opportunity to select courses in elective areas. At the end of the coursework, students must pass a comprehensive examination.

PROGRAM REQUIREMENTS

I. Area of Specialization (21 Credits)

Core Courses (18 credits)

15:253:510 Academic English in the Content Areas* (3)

15:253:520 Principles of Language Learning: Second and World Language Acquisition (3)

15:253:523 Language and Culture (3)

15:253:530 Foundations of Language (3)

15:253:537 Language in Society (3)

And one of the following teaching methodology sequences to be approved by adviser (6 credits):

15:253:538 Methods for Teaching and Assessing World Language Learners (3)

15:253:539 Methods for Teaching and Assessing English Language Learners (3)

*Students who have taken 05:300:452 and 453 as part of a five-year or postbaccalaureate initial certification program at the Graduate School of Education (GSE) may substitute those courses for 253:510. Only students who took these courses as part of a GSE initial certification program may make the substitution

II. Electives (12 credits)

III. Comprehensive Examination

Master's students are required to take a comprehensive examination that is offered twice a year, once in the fall and once in the spring. Students are responsible for checking the deadline for exam registration in the department office and submitting the necessary forms to their assigned academic adviser for approval. These documents include a completed comprehensive exam registration form and a recent transcript showing the completion of all required core courses and no incompletes. Information on the exam format is available.

Summary of Credits

Area of Specialization	21
Electives	9
TOTAL	**30 Credits**

Programs in the Department of Learning and Teaching with No State Certification (GSE)

Ed.M. in Literacy Education

Ed.M. in Literacy Education

Coordinator: Lesley Morrow (848) 932-0764; Email: lesley.morrow@gse.rutgers.edu)

Please visit the website.

Program Description: The Ed.M. Program in Literacy Education is designed for teachers working in literacy education at any grade level or for those who are interested in working in literacy education in contexts that do not require certification. The program is designed to encourage students to articulate their visions of themselves as teachers, to identify and critique the assumptions that under gird their vision, to become critically familiar with competing visions, to develop instructional strategies that will help them enact their visions, and to engage in the kind of reflective inquiry that is an essential characteristic of an effective teacher.

The program requires 30 credits of study beyond the Bachelor of Arts degree. Students are required to take at least 12 credits in literacy education and to situate their studies in literacy education both within related areas and educational foundations. In addition, students must successfully complete a comprehensive examination or fulfill one of the comprehensive examination alternatives offered by the Learning & Teaching department (advisor approval required for alternatives).

Program Outline

Minimum Credits: 30

1. Area of Specialization (12 credits)

A. Required course

15:299:561 Theoretical Foundations of Literacy - Research, Policy, and Practice (3)

B. At least 9 additional credits in literacy education

These credits may include courses in English education, reading, or early literacy.

2. Electives (18 credits)

A. Educational Foundations (6 credits)

Students should select courses that help them to relate to their studies in literacy education and to the field of education as a whole.

B. Related areas (6 credits)

Many other areas address issues relevant to literacy education. Taking courses in related areas will help students expand their understanding of the variety of ways that different areas and different disciplines approach issues of literacy and education. Students should select courses from related areas either within or outside the Graduate School of Education (GSE). Students should consider such areas as anthropology, bilingual/bicultural education, English, language education, library science, linguistics, and women's studies.

C. Electives (6 credits)

Courses may be selected from within the GSE or from the university at large.

All courses must be taken with the approval of the student's adviser.

IV. Comprehensive Examination

The comprehensive exam involves the preparation of a professional portfolio that demonstrates knowledge of research theory and practice in the field of literacy.

Programs in the Department of Learning and Teaching with No State Certification (GSE)

Ed.M. in Mathematics Education

Ed.M. in Mathematics Education

Coordinator: Juan Pablo Mejia-Ramos (848-932-0804; Email: (pablo.mejia@gse.rutgers.edu)

Please visit the website.

Program Description: The Master of Education degree program in Mathematics Education is designed for students with strong mathematical or technical backgrounds who are interested in mathematics learning and teaching. This 30-credit program stresses the need for students to be familiar with the entire K-16 range of mathematics learners, issues, and current developments. As such, it is appropriate for prospective researchers in mathematics education, college-level mathematics instructors, secondary mathematics teachers, and, in exceptional cases, elementary teachers with a strong interest and background in mathematics. **While New Jersey certification is not required for entry into the program, many of the students are already certified and employed in New Jersey secondary or post-secondary schools. (One program option, the Ed.M. in Mathematics Education (Certification: Teacher of Mathematics), serves the needs of students who are seeking New Jersey teacher certification.)**

The required and elective courses in the program deal with basic problems in the learning and teaching of mathematics, techniques and strategies for studying children's mathematical thinking, the uses of technology in mathematics teaching, and with mathematics itself. Students in the program have opportunities to engage in some independent studies, a good deal of small group work, and some fairly traditional whole group class sessions. Students will also be involved in the ongoing research and professional development activities of the faculty and doctoral students in mathematics education.

PROGRAM REQUIREMENTS: The following outline serves as a guide to the distribution of courses. Students are urged to maintain frequent contact with their advisers in order to construct a plan of study, select appropriate courses, and discuss changes that may be needed or desired. Please note that at least 15 of the 30 credits that comprise the full degree program must be school 15 (Graduate School of Education) courses taken at the 500 level or above.

Learning Strand (6 credits)

15:254:540 Understanding School-Aged Students' Mathematical Learning (3)

15:254:644 Mathematics Education Practicum (3)

Content Strand (6 credits)

15:254:550 Problem-Solving Processes in Mathematics (3)

15:254:551 Critical Thinking and Reasoning in Mathematics (3)

Teaching Methods Strand (6 credits)

15:254:541 Analysis of Mathematics Curricula I (3)*

15:254:548 Technology in Mathematics Teaching (3)

*A valid substitution is 05:300:443 Methods of Teaching Secondary Mathematics OR an approved equivalent methods course where a lesson plan must be submitted for evaluation.

Electives (12 credits)

Students are required to complete four electives. At least three of these electives must be completed in the Graduate School of Education (GSE) or be education-related courses in the mathematics department. (Note: to obtain the five school 15 [GSE] courses required for graduation, at least one course must be a school 15 course. The remainder can be undergraduate courses at the 300-level or higher). Students can take these electives in a wide variety of areas (such as science education, educational psychology, and special education), or in one of the many certificate and endorsement programs offered in the Graduate School of Education.

We recommend the following mathematics education courses:

05:300:341(G) High School Mathematics Content: Teaching and Assessment (3)

15:254:552 Foundations of Algebraic Reasoning (3)

15:254:553 Lesson Study on Reasoning in Mathematics Learning (3)

15:254:598 Topics in Mathematics Education: Seminar on Affect and Motivation (BA)

15:254:649 Topics in Mathematics Education: Seminar in Math Ideas (3)

26:300:533 Collaboration and Dynamic Mathematics in Middle and High School (3)

Programs in the Department of Learning and Teaching with No State Certification (GSE)

Ed.M. in Science Education

Ed.M. in Science Education

Coordinator: Robert Zisk (848-932-0721; Email: robert.zisk@gse.rutgers.edu)

Please visit the website.

Program Description: The master's degree program in Science Education is designed for individuals who possess a baccalaureate degree from an accredited institution of higher education and who wish to pursue a master's degree in education.

The overall goal of the program is to help students identify and characterize their aims for the degree, as well as their future plans in using the knowledge and practices gained from the degree. The program will thus be individually crafted to suit each student's personal goals for the degree. We anticipate the following four overarching categories of goals:

1. To expand and deepen understanding of science knowledge and science learning;

2. To improve professional practice in formal or informal settings;
3. To develop knowledge of current research and theory related to science instruction in formal or informal settings through analysis and synthesis of seminal work in the field; and
4. To develop a plan for future learning and professional development.

This program does not include coursework leading to a New Jersey School personnel license.

Education Requirements:

Programs of study are individually constructed by the student and his or her adviser using the outline below:

I. Science Education (15 credits)

15:262:612 Inquiry and the Design of Learning Environments (3)
15:300:462 (G) Demonstration and Technology in Science Education (3)
15:256:591 Topics in Science Education (Learning in Informal Contexts) (3)
15:262:603 Design of Learning Environments (3)
15:295:518 Motivation in the Classroom (3)

Physical Science Area
15:256:551 Development of Ideas in Physical Science (3)
15:256:552 Teaching and Assessment in Physical Science (3)
15:256:555 Research Internship in Science Education (3)
15:256:557 Multiple Representations in Physical Science (3)
15:256:654 Science Education Practicum (3)

Biological Science Area
15:256:550 Biology and Society (3)
15:256:553 Teaching and Assessment in Life Science (3)
15:256:555 Research Internship in Science Education (3)
15:256:556 Understanding Evolution: A Classroom Perspective (3)
15:256:654 Science Education Practicum (3)

II. Cognitive and Instructional Psychology (6 credits)

15:295:502 Cognition and Memory (3)
15:295:510 Cooperative Learning: Theory, Research, and Practice (3)
15:295:550 Learning through Problem-Solving (3)
15:295:611 Memory Systems and Processes (3)
16:300:695 Topics in Educational Psychology: Seminar on Reasoning (3)

Graduate-Level Electives (9 credits)
Physical or life science or science education course selection must be approved by adviser.

TOTAL: 30 CREDITS

III. To provide evidence of the achievement of the goals the student and faculty jointly set for the degree the student will create a portfolio with the following components:

a. Section 1 is the introductory section that reiterates the goals of the author in pursuing the degree.
b. Section 2 discusses how each course and other relevant experiences (such as internships) have promoted the goal/s set, and what the author has learned and taken away from these experiences.
c. Section 3 provides relevant artifacts that demonstrate changes in knowledge, beliefs, and practice related to the set goals. These artifacts can come from coursework or other activities.
d. Section 4 describes a "future directions" plan that identifies areas for improvement, knowledge of professional development opportunities in the science education relevant to the set goals, and concrete steps that the author plans to take.

The portfolio should demonstrate deep knowledge of core topics (as related to the goals), and ability to synthesize and analyze research in science education.

Tentative schedule for completing portfolio requirements and suggestions for successful completion:

1. A draft of Section 1 should be completed by the end of the first semester, approved by the adviser, and then continuously revised as the student progresses through the program.
2. As the student progresses through the program she or he should keep a journal that addresses Sections 2 and 3 of the portfolio. The student should collect relevant artifacts and meet with the adviser at least once each semester to discuss artifacts and reflect on the connection of the courses work to the portfolio requirements.
3. When the student is completing the last semester in the program she or he needs to develop a professional development plan to address Section 4 of the portfolio and to schedule a meeting with the adviser for portfolio hearing and evaluation.

Portfolio creation is an ongoing iterative process in which both the student and the adviser are expected to take active roles. The portfolio sections will be stored electronically both on the hard drive of the students and the adviser. In addition, completed portfolios will be stored for a period of five years on the departmental server. The following rubrics should help students create and maintain the portfolio.

The following rubrics should help students create and maintain the portfolio:

Section of the portfolio	Emerging	Needs Improvement	Satisfactory
Section 1	The goals are generic.	The goals are defined and personalized but not justified.	The goals are clearly defined, personalized, and justified.
Section 2	The relationship between the courses and goals is not articulated.	Some courses are missing or the discussion of the relation between course and goals is incomplete.	All courses are discussed with respect to the goals and the evidence of attainment is provided.
Section 3	Insufficient artifacts are provided and there is a lack of connection to the goals.	Artifacts are provided but not explained or linked to the goals	Artifacts are provided, explained, and linked to the goals.
Section 4	The plan is vague.	The plan is in place but lacks clear justification.	The plan for improvement and growth is clearly articulated and well justified.

Master of Education (Ed.M.) Programs with State Certification (GSE)

MASTER OF EDUCATION (ED.M.) PROGRAMS WITH STATE CERTIFICATION

(**NOTE**: For those interested in master's degree programs leading to a teaching certification, please see the Postbaccalaureate Teacher Preparation Programs section.)

The Graduate School of Education offers many master's degree programs that also result in a recommendation to the state for a license as a school professional. Among those are programs that prepare school counselors, learning disabilities teacher consultants, school principals and supervisors, and reading specialists.

All of these programs, and their requirements, are described in this section of the catalog.

Programs in the Department of Educational Psychology with State Certification
Programs in the Department of Educational Theory, Policy, and Administration with State Certification
Programs in the Department of Learning and Teaching with State Certification

Programs in the Department of Educational Psychology with State Certification (GSE)

PROGRAMS IN THE DEPARTMENT OF EDUCATIONAL PSYCHOLOGY WITH STATE CERTIFICATION

Ed.M. in School Counseling (Certification: School Counselor)

Ed.M. in School Counseling (Certification: School Counselor)

Program/Clinical Coordinator: Kathy Shoemaker (848-932-0820; Email: kathy.shoemaker@gse.rutgers.edu)

Please visit the website.

Program Description: This 60-credit master's degree program prepares school counselors to perform school counseling services in grades preschool through 12.These tasks include services such as study and assessment of individual pupils with respect to their status, abilities, interest and needs; counseling with administrators, teachers, students, and parents regarding personal, social educational and vocational plans and programs; and developing cooperative relationships with community agencies in assisting children and their families. A focus on multicultural aspects of school counseling is integrated throughout the program.

The Ed.M. program in School Counseling meets all state requirements for the NJ School Counselor and Educational Services Certification and is accredited by the Council for Accreditation of Counseling and Related Educational Programs (CACREP).

Education Requirements:

Counseling (21 credits)

15:297:501 Introduction to Counseling and Interview Skills (3)

15:297:502 Introduction to School Counseling (3)

15:297:505 Group Counseling: Theory and Practice (3)

15:297:510 Career Counseling and Development (3)

15:297:514 School Mental Health Services for Children and Adolescents (3)

15:297:604 Professional Ethics (3)

15:297:613 Theories of Counseling (3)

Testing (6 credits)

15:291:511 Introduction to Assessment, Applied Statistics, and Research (3)

15:291:520 Program Evaluation: An Introduction to Methods and Practice (3)

Psychology (6 credits)

Select two courses from the following:

15:295:504 Lifespan Development (3)

or

15:295:512 Introduction to Child Psychology (3)

and

15:297:508 Family: Systems Development (required)

Sociological and Cultural Foundations (6 credits)

15:297:507 Multicultural Issues (3)

Statistics or Research (3 credits)

15:297:615 Research Methods in School Mental Health (3)

Community Agencies, Organizations, and Resources (3 credits)

15:297:512 Resources and Consultation in School Counseling (3)

Supervised Counseling Practicum (9 credits)

15:297:627 School-Based Practicum (3)

15:297:628 Internship: School Counseling (2 semesters) (3)

15:297:628 Internship: School Counseling (2 semesters) (3)

Electives (Select 3)

15:295:580 Psychology of Learning (3)

15:297:630 Special Topics in Counseling (3)

15:297:651 Supervision of School Counseling Services (3)

15:310:500 Curriculum and Instruction (3)

15:310:512 Race, Ethnicity, and Society (3)

15:310:540 Gender and Education (3)

15:310:569 Queer Issues in School (3)

HIB Training: All candidates for certification must complete pre-service training in the prevention of harassment, intimidation, and bullying (HIB).

Ed.M. in Special Education - Learning Disabilities Teacher - Consultant (LDT-C)

Ed.M. in Special Education - Learning Disabilities Teacher-Consultant (LDT-C)

Coordinator: Angela O'Donnell (848-932-0830; Email: angela.odonnell@gse.rutgers.edu)

Please visit the website.

Program Description: This 36-credit program prepares teachers to serve as Learning Disabilities Teacher-Consultants (LDT-C) in the public school systems (K-12). The LDT-C works as an assessment specialist and a member of the Public Personnel Services team. Applicants are required to have a New Jersey standard instructional certificate and three years of full-time classroom teaching experience. The program includes instruction in the assessment of academic achievement of students referred for learning disabilities evaluation. Participants will also be prepared to interpret patterns found in testing, to devise informal measures to pinpoint cognitive difficulties and to design interventions to help students compensate for academic and behavioral deficiencies.

Education Requirements:

Special Education Core (18 credits)

Required Courses (15 credits)

15:293:522 Learning Disabilities (3)

15:293:525 Psychology of the Exceptional Child (3)

15:293:526 Identification and Assessment of Learning Disabilities (3)

15:293:527 Remediation of Learning Disabilities (3)

15:293:636 Practicum in Special Education (3)

Select one course from the following (3 credits)

15:293:521 Intellectual and Developmental Disabilities (3)

15:293:529 Instructional Decision Making in Special Education (3)

15:293:530 Instruction for Autism and Intellectual Disabilities (3)

15:293:610 New Jersey Special Education Law (3)

15:293:630 Current Topics in Special Education (3)

Educational Statistics, Measurement, and Evaluation Core (6 credits)

15:291:515 Psychometric Theory I (3)

15:291:531 Statistical Methods I (3)

Learning, Cognition, and Development (6 credits)

15:290:583 Biological Bases of Behavior (3)

15:295:580 Psychology of Learning (3)

Electives (6 credits outside of the special education program)

Programs in the Department of Educational Psychology with State Certification (GSE)

Ed.M. in Special Education - Teacher of Students with Disabilities (TOSD)

Ed.M. in Special Education - Teacher of Students with Disabilities (TOSD)

Coordinator: Angela O'Donnell (848-932-0830; Email: angela.odonnell@gse.rutgers.edu)

Please visit the website.

Program Description: The master's degree program in special education provides advanced graduate preparation for general education teachers seeking Teacher of students with Disabilities licensure. **NJDOE requires a Standard Instructional Certificate or Certificate of Eligibility with Advanced Standing (CEAS) in a subject area other than English as a Second Language to issue a TOSD certification. Therefore this program is only avaible to applicants who hold an instructional certificate other than ESL.**

Coursework addresses the instructional needs of students with mild and moderate disabilities. The 36-credit program is composed of a special education core (21 credits); a learning, cognition, and development (LCD) requirement (3 credits); educational statistics, measurement, and evaluation courses (6 credits); and special education electives (6 credits).

The special education core develops competencies in the assessment and remediation of students with learning disabilities, collaborative teaching/consultation skills, and knowledge about New Jersey special education law.

Students **not** interested in pursuing a master's degree but interested in obtaining the Teaching students with Disabilities endorsement should apply for admission into the 21 credit non-degree program. A student working on the non-degree program who later decides o be in the master's degree program must seek admission to the degree program prior to completing 12 applicable credits.

Education Requirements:

1. Special Education Core (27 credits)

Required (21 credits)

05:300:480 Literacy for Students with Disabilities (3)

15:293:525 Psychology of the Exceptional Child (3) or 05:300:383 Introduction to Special Education (3)

15:299:516 Literacy Development in the Elementary and Middle School (3) or 05:300:495 Literacy Development in the Elementary and Middle School (3)

15:293:523 Inclusive Teaching in Education (3) or 05:300:481 Materials and Methods in Special Education (3)

15:293:522 Learning Disabilities (3)

15:293:533 Assessment and Measurement for Special Education (3)

15:293:534 Classroom Organization for Special Education (3)

Two courses selected from the following (6 credits)

15:293:509 Emotional and Behavioral Disorders (3)

15:293:521 Intellectual and Developmental Disabilities (3)

15:293:530 Instruction for Autism and Intellectual Disabilities (3)

15:293:610 New Jersey Special Education Law (3)

15:293:630 Current Topics in Special Education (3)

2. Educational Statistics, Measurement, and Evaluation Core (6 credits)

15:291:515 Psychometric Theory I (3)

15:291:531 Statistical Methods I (3)

3. Learning, Cognition, and Development Core (3 credits)

15:290:583 Biological Bases of Behavior (3)

15:295:580 Psychology of Learning (3)

Programs in the Department of Educational Psychology with State Certification (GSE)

Ed.M. in Special Education - Teacher of Students with Disabilities and GSE Gifted Education Certificate

Ed.M. in Special Education - Teacher of Students with Disabilities Certification and GSE Gifted Education Certificate

Coordinator: Judith Harrison (848-932-0822; Email: judith.harrison@rutgers.edu)

Please visit the website.

Program Description: The master's degree program in special education and gifted education provides advanced graduate preparation for general education teachers seeking Teacher of Students with Disabilities licensure and the Rutgers Graduate Certificate in Gifted Education. This program prepares educators to meet the needs of exceptional students in educational settings.

NJDOE requires a standard Instructional Certificate or Certificate of Eligibility with Advanced Standing (CEAS) in a subject area other than English as a Second Language to issue a TOSD certification. Therefore this program is only available to applicants who hold an instructional certificate other than ESL.

Course work addresses the instructional needs of students with mild and moderate disabilities and the academic and affective needs of gifted learners. The 36-credit program is composed of a special education core (21 credits) and a gifted education core (15 credits).

The special education core develops competencies in the assessment and remediation of students with learning disabilities, collaborative teaching/consultation skills, and knowledge about New Jersey special education law.

The gifted education core develops competencies in the foundational knowledge and standards of the field, collaborative and responsive teaching, evidence-based instructional strategies, development of specialized curricula, and the design and improvement of programs and services for gifted learners.

Students **not** interested in pursuing a master's degree but interested in obtaining the Teaching Students with Disabilities endorsement should apply for admission into the 21-credit non-degree program. A students working on the non-degree program who later decides to be in the master's degree program must seek admission to the degree program prior to completing 12 applicable credits.

Education Requirements:

Special Education Core (21 credits)

05:300:480 Literacy for Students with Disabilities (3)

15:293:522 Learning Disabilities (3)

15:293:523 Inclusive Teaching in Education or 05:300:481 Materials and Methods in Special Education (3)

15:293:525 Psychology of the Exceptional Child or 05:300:383 Introduction to Special Education (3)

15:293:533 Assessment and Measurement for Special Education (3)

15:293:534 Classroom Organization for Inclusive and Special Classrooms (3)

15:299:516 or 05:300:495 Literacy Development in the Elementary and Middle School (3)

Gifted Education Core (15 credits)

15:294:531 The Gifted Child or 05:300:320 Introduction to Gifted Education (3)

15:294:532 The Social and Emotional Development of Gifted Children or 05:300:320 The Social and Emotional Needs of Gifted Learners (3)

15:294:533 Curriculum and Instruction for the Gifted (3)

15:294:534 Gifted Program Development (3)

15:294:542 The Twice-Exceptional (2E) Learner (3)

Programs in the Department of Educational Theory, Policy, and Administration with State Certification (GSE)

PROGRAMS IN THE DEPARTMENT OF EDUCATIONAL THEORY, POLICY, AND ADMINISTRATION WITH STATE CERTIFICATION

Ed.M. in Educational Administration and Supervision (Option A - Certification: Principal)

Ed.M. in Educational Administration and Supervision (Option A - Certification: Principal and Supervisor)

Coordinator: Gail Verona (848-932-0626; Email: gail.verona@gse.rutgers.edu)

Please visit the website.

Program Description: At the master's degree level, typical programs are offered for aspiring school principals, supervisors, and leaders in higher education.

To obtain a master of education degree in administration and supervision within elementary or secondary education, students must choose one of the following options. Option A (39 credits) meets the requirements for New Jersey principal *and* supervisor certification. Option B (36 credits) prepares students for the principal certification only. Option C (30 credits) prepares students who are not interested in receiving such certification(s).

Please note that the Educational Leadership Program, Option A, does not accept credits earned at other universities.

Education Requirements:

Required Courses in Educational Administration (27 credits):

15:230:500 Foundations of Educational Administration and Supervision (3)

15:230:501 Leadership and Communication Skills Educational Supervision (3)

15:230:505 School-Community Relations: The Politics of Education (3)

15:230:507 Education Law (3) or 15:230:607 New Jersey Education Law (3)

15:230:514 Personnel Administration (3)

15:230:520 Public School Finance (3)

15:230:522 Decision Analysis I (3) or 15:230:615 Assessment/Data/Problem Solving (3)

15:230:530 Internship in Educational Administration I (3)

15:230:531 Internship in Educational Administration II (3)

Courses for Supervisor Certification (12 credits):

Required (6 credits):

15:230:521 Supervision of Instruction (3)

15:310:500 Curriculum and Instruction (3) or 15:250:504 Foundations of Curriculum (3)

Select two electives with advisement and/or approval of educational administration adviser (6 credits):

15:251:572 Curriculum Development in the Elementary School (3)

15:310:505 Curriculum Development in the Secondary School (3)

15:310:510 Curriculum of Middle and Junior High School (3)

Ed.M. in Educational Administration and Supervision (Option B - Certification: Principal)

Ed.M. in Educational Administration and Supervision (Option B - Certification: Principal)

Coordinator: Gail Verona (848-932-0626; Email:gail.verona@gse.rutgers.edu)

Please visit the website.

Program Description: At the master's degree level, typical programs are offered for aspiring school principals, supervisors, and leaders in higher education.

To obtain a master of education degree in administration and supervision within elementary or secondary education, students must choose one of the following options. Option A (39 credits) meets the requirements for New Jersey principal and supervisor certification. Option B (36 credits) prepares students for the principal certification only. Option C (30 credits) prepares students who are not interested in receiving such certification(s).

Please note that the Educational Leadership Program, Option B, does not accept credits earned at other universities.

Education Requirements:

Required Courses in Educational Administration (30 credits)

15:230:500 Foundations of Educational Administration and Supervision (3)

15:230:501 Leadership and Communication Skills Educational Supervision (3)

15:230:505 School-Community Relations: The Politics of Education (3)

15:230:507 Education Law (3) or 15:230:607 New Jersey Education Law (3)

15:230:514 Personnel Administration (3)

15:230:520 Public School Finance (3)

15:230:521 Supervision of Instruction (3)

15:230:522 Decision Analysis I (3) or 15:230:615 Assessment/Data/Problem Solving (3)

15:230:530 Internship in Educational Administration I (3) (This course has a field experience component.)

15:230:531 Internship in Educational Administration II (3) (This course has a field experience component.)

Educational Administration Electives (6 credits)

15:310:512 Race, Ethnicity, and Inequality in Education (3)

15:310:540 Gender and Education (3)

15:310:542 Urban Education (3)

15:230:___ Educational Administration Elective (3)

15:230:___ Educational Administration Elective (3)

Programs in the Department of Learning and Teaching with State Certification (GSE)

PROGRAMS IN THE DEPARTMENT OF LEARNING AND TEACHING WITH STATE CERTIFICATION

Ed.M. Program for Reading Specialist with Supervision Certification

Ed.M. Program for Reading Specialist with Supervisor Certification

Coordinator: Lesley Morrow (848-932-0764; Email: lesley.morrow@gse.rutgers.edu)

Please visit the website.

Program Description: This program is designed for individuals who wish to receive the Reading Specialist Certification along with a supervisor's certificate to work as a reading/literacy specialist, coach, basic skills teacher, or supervisor in public and private schools grades K through 12. In order to be eligible for the Graduate School of Education (GSE) to make recommendations to the New Jersey Department of Education for certification issuance, candidates must meet the following state requirements **within a year of completing the program**:

- Reading Specialist: must have a standard New Jersey instructional certification with **two years** of full-time experience as a classroom teacher.
- Supervisor: must have a standard New Jersey instructional or educational services certification with **three years** of full-time experience under that certification.

The program is designed to enable students to initiate new programs, evaluate curriculum, design assessment, engage other teachers in professional development, and be able to act as a leader in the school. These individuals will be able to plan programs for children of differing abilities and diverse cultural backgrounds. These students should also be able to foster a vision of literacy learning as an active social process in which students become engaged readers with strategies for independent reading and the motivation to read for pleasure and for information.

The program requires 33 credits of study. Students will develop a broad understanding of literacy issues by taking core courses on the development of literacy, the diagnosis and remediation of reading problems, curriculum development, and supervision of literacy programs. Students will also study theory and research in the field. Additional credits include courses dealing with strategies for literacy instruction, with administration and supervision, and with learning cognition and development.

Education Requirements:

Core Courses (12 credits)

15:299:561 Theoretical Foundations of Literacy, Research, Policy, and Practice (3)

15:299:564 Diagnosis and Correction of Reading Difficulties (3)

15:299:565 Clinical Practicum (Laboratory in Remedial Reading) (3)

15:299:566 Literacy Research and Supervision (3)

Literacy Methods (9 credits, select 3 courses from this list)

15:252:519 Teaching Writing for Children and Adolescents (3)

15:252:522 Multimodal and Digital Literacies (3)

15:252:525 Writing Project Workshop: Bringing Research and Theory into Practice (3)

15:252:526 Teaching Struggling Readers (3)

15:299:514 Literacy Development in the Early Years (3)

15:299:516 Literacy Development in the Elementary and Middle School (3)

15:299:518 Current Topics in Reading Education (3)

15:299:533 Coaching: Leadership, Supervision, and Professional Development in Literacy (3)

15:299:562 Reading and Writing Across Content Disciplines (3)

Materials for Children and Adolescents (3 credits, select one)

15:252:520 Adolescent Literature for Secondary Students (3)

15:299:509 Children's Literature in the Early Childhood and Elementary School Curriculum (3)

Study in Educational Theory, Policy, and Administration (6 credits)

15:230:521 Supervision of Instruction (3)

15:310:500 Curriculum and Instruction (3)

Study in Educational Psychology (3 credits, select one)

15:293:522 Learning Disabilities (3)

15:293:525 Psychology of the Exceptional Child (3)

Combined B.A./B.S./Ed.M. Five-Year Teacher Preparation Programs (GSE)

COMBINED B.A./B.S./ED.M. FIVE-YEAR TEACHER PREPARATION PROGRAMS

NOTE: New Teacher Education programs are currently under development. These new programs will be in effect for applicants to the Summer/Fall 2025 cohorts. Please refer to the GSE website for the most up to date information on these programs.

The Graduate School of Education (GSE) offers a five-year joint bachelor's degree/master's degree/initial teacher certification program. Rutgers undergraduates are admitted to the program at the end of their junior year. GSE teacher education curriculum provides for certification through five-year combined programs in the following areas: biological science (K-12), elementary education with subject matter specialization (K-8), elementary education with preschool through grade three (K-5/P-3), English (K-12), English as a Second Language (K-12), foreign languages (Chinese, French, German, Italian, Japanese, Latin, Russian, and Spanish), mathematics (K-12), physical science and physics (K-12), social studies (K-12), and special education (K-12).

GSE, in combination with Mason Gross School of the Arts, offers a five-year program in dance education (K-12).

GSE, in combination with the School of Environmental and Biological Sciences, offers two five-year programs in agricultural or biological science (K-12) and physical science (K-12).

All programs require that a student have an undergraduate major appropriate to the area of licensure, 60 credits in liberal arts, and satisfaction of the general education distribution. The requirements needed to satisfy the general education distribution can be found in the Office of Student and Academic Services, Room 110, Graduate School of Education (848-932-3232). Some programs may require a comprehensive examination, portfolio, and/or writing requirement for program completion.

Advising and planning information for all five-year teacher education programs can be found on Degree Navigator.

Combined B.A./B.S./Ed.M. Programs in the Department of Educational Psychology (GSE)

COMBINED B.A./B.S./ED.M. PROGRAMS IN THE DEPARTMENT OF EDUCATIONAL PSYCHOLOGY

NOTE: New Teacher Education programs are currently under development. These new programs will be in effect for applicants to the Summer/Fall 2025 cohorts. Please refer to the GSE website for the most up to date information on these programs.

Five-Year Program in Special Education and Elementary Education (Certifications: Teacher of Students with Disabilities [K-12] and [Teacher of Elementary Education [K-6])

Five-Year Program in Special Education and Elementary Education (Certifications: Teacher of Students with Disabilities [K-12] and Teacher of Elementary Education [K-6])

Coordinator: Dake Zhang (848-932-0821; Email: dake.zhang@gse.rutgers.edu)

Please visit the website.

Program Description: The five-year teacher education program in special education and elementary education (K-6) leads to a bachelor's degree, a master's degree, and initial teacher certification. Rutgers undergraduates do preliminary coursework and field placements as assigned during the sophomore and junior years, are admitted to the program during the spring semester of the junior year, and enter the professional education sequence in the summer between junior and senior years. Students then qualify to have their bachelor's degree awarded by the undergraduate liberal arts college.

Students continue with the professional sequence the summer after graduation. They return in the fall to complete a student-teaching internship with related coursework and continue with full-time graduate study, including a field-based research project, in the spring. The Ed.M. degree is conferred upon the completion of all five-year program requirements.

After the master's degree is awarded, the GSE will make a recommendation to the New Jersey State Department of Education on behalf of the student to receive a CEAS as a teacher.

Education Requirements:

Pre-Admission Core Courses (9.5 credits)

05:300:200 Introduction to Education (3)

05:300:201 Introduction to Education Field-Based Lab - Clinical Experience (.5)

05:300:306 Introduction to Educational Psychology: Principles of Classroom Learning (3)

05:300:383 Introduction to Special Education (3)

Elementary/Middle School Education (37 credits)

05:300:304 Arts across the Curriculum (3)

05:300:480 Literacy for Students with Disabilities (3)

05:300:481 Materials and Methods in Special Education (3)

05:300:494 Literacy Development in the Early Years (3)

05:300:580 Inquiry-Based Teaching, Learning, and Assessment (3)

15:251:561 Teaching Mathematics in the Lower Elementary Grades (2)

15:251:562 Teaching Mathematics in the Upper Elementary Grades (2)

15:256:554 Science in the Elementary School: Learning and Assessment (3)

15:257:564 Teaching Social Studies in the Elementary School (3)

15:293:533 Assessment for Special Education (3)

15:293:509 Emotional and Behavioral Disorders (3)

15:293:522 Learning Disabilities (3)

15:293:530 Instruction for Autism and Intellectual Disabilities (3)

Common Professional Education Core (12 credits)

05:300:450 Urban Education I (1.5)

05:300:451 Urban Education II (1.5)

05:300:452 Teaching Emerging Bilinguals in the K-12 Classroom I (1.5)

05:300:453 Teaching Emerging Bilinguals in the K-12 Classroom II (1.5)

15:255:534 Classroom Organization for the Inclusive and Special Classroom (3)

Choose one from the following:

05:300:406 Community-Based Language Learning (3)

15:255:539 Communities, Schools, and Social Justice (3)

15:253:540 Teaching English Language Learners (3)

Clinical Experience (19.5 credits)

05:300:498 Clinical Experience Phase 1 (.5)

05:300:499 Clinical Practice Phase 2 (4)

15:255:535 Clinical Practice Phase 3 (9)

15:255:536 Clinical Practice Seminar (6)

Major Requirements

Almost any major offered by the Faculty of Arts and Sciences is acceptable for this program. A major in one of the subject areas taught in the middle school grades, however, will make the program requirements much easier to accomplish (English, mathematics, sciences, social studies). Please check with the program faculty about your choice of major as early as possible in your undergraduate career.

Combined B.A./B.S./Ed.M. Five-Year Teacher Preparation Programs in the Department of Educational Theory, Policy, and Administration (GSE)

COMBINED B.A./B.S./ED.M. PROGRAMS IN THE DEPARTMENT OF EDUCATIONAL THEORY, POLICY, AND ADMINISTRATION

NOTE: New Teacher Education programs are currently under development. These new programs will be in effect for applicants to the Summer/Fall 2025 cohorts. Please refer to the GSE website for the most up to date information on these programs.

Five-Year Program in Social Studies Education (Certification: Teacher of Social Studies [K-12])

Five-Year Program in Social Studies Education (Certification: Teacher of Social Studies [K-12])

Coordinator:

Benjamin Justice (848-932-0679; Email: ben.justice@gse.rutgers.edu)

Please visit the website.

Program Description: The five-year teacher education program in social studies education (K-12) leads to a bachelor's degree, a master's degree, and initial teacher certification. Rutgers undergraduates do preliminary coursework and field placements as assigned during the sophomore and junior years, are admitted to the program during the spring semester of the junior year, and enter the professional education sequence in the summer between junior and senior years. Students then qualify to have their bachelor's degree awarded by the undergraduate liberal arts college.

Students continue with the professional sequence the summer after graduation. They return in the fall to complete a student-teaching internship with related coursework and continue with full-time graduate study, including a field-based research project, in the spring. The Ed.M. degree is conferred upon the completion of all five-year program requirements.

After the master's degree is awarded, the GSE will make a recommendation to the New Jersey State Department of Education on behalf of the student to receive a CEAS as a teacher.

Education Requirements:

Pre-Admission Core Courses (6.5 credits)

05:300:200 Introduction to Education (3)

05:300:201 Introduction to Education Field-Based Lab - Clinical Experience (.5)

05:300:306 Introduction to Educational Psychology: Principles of Classroom Learning (3)

Social Studies Education (15 credits)

05:300:472 Materials, Methods, and Assessment in Social Studies (3)

15:257:560 Introduction to Social Studies Education (3)

15:257:561 Analysis of Social Studies Curricula (3)

15:257:562 Workshop in Social Studies Education (3)

Graduate-level elective in social studies education (3)

Common Professional Education Core (15 credits)

05:300:450 Urban Education I (1.5)

05:300:451 Urban Education II (1.5)

05:300:452 Teaching Emerging Bilinguals in the K-12 Classroom I (1.5)

05:300:453 Teaching Emerging Bilinguals in the K-12 Classroom II (1.5)

15:255:534 Classroom Organization for the Inclusive and Special Classroom (3)

15:293:523 Inclusive Teaching in Education (3)

Choose one from the following:

15:255:539 Communities, Schools, and Social Justice (3)

15:253:540 Teaching English Language Learners (3)

05:300:406 Community-Based Language Learning (3)

Clinical Experience (19.5 credits)

05:300:498 Clinical Experience Phase 1 (.5)

05:300:499 Clinical Practice Phase 2 (4)

15:255:535 Clinical Practice Phase 3 (9)

15:255:536 Clinical Practice Seminar (6)

Major and Social Studies Distribution

Every candidate for certification in social studies education must complete a full major in one of the following: history, political science, economics, sociology, geography, anthropology, American studies, or area/gender/ethnic studies such as Africana studies, women's studies, Latino and Caribbean studies, etc. Students must include in their studies at least 30 credits of coursework in the five core content areas: American history/New Jersey history, world history, civics/government, economics, and geography; students must complete at least 15 credits in history, and at least one course in each of American history/New Jersey history, world history, civics/government, and geography. (Courses in the major may be used to fulfill these social studies distribution requirements. Courses can be used to fulfill both the 15-credit history requirement and the core content area distribution requirement.) Although it is not required, we strongly encourage all students to take an introductory-level economics course as well.

Combined B.A./B.S./Ed.M. Programs in the Department of Learning and Teaching (GSE)

PROGRAMS IN THE DEPARTMENT OF LEARNING AND TEACHING

NOTE: New Teacher Education programs are currently under development. These new programs will be in effect for applicants to the Summer/Fall 2025 cohorts. Please refer to the GSE website for the most up to date information on these programs.

Five-Year Program in Dance Education (Certification: Teacher of Dance [K-12])

Five-Year Program in Early Childhood and Elementary Education (Certifications: Preschool-Grade 3 [P-3] and Teacher of Elementary Education [K-6])

Five-Year Program in Elementary Education with Subject Matter Specialization (Certifications: Teacher of Elementary Education [K-6] and Teacher of Elementary Education with Subject Matter Specialization [5-8] in English/Language Arts, Mathematics, Science, or Social Studies)

Five-Year Program in English as a Second Language Education (ESL) (Certification: Teacher of English as a Second Language, ESL [K-12])

Five-Year Program in English Education (Certification: Teacher of English [K-12])

Five-Year Program in Foreign Language Education (Certification: Teacher of World Languages [K-12])

Five-Year Program in English as a Second Language Education (ESL) and Foreign Language Education (Certifications: Teacher of World Languages and Teacher of English as a Second Language [K-12])

Five-Year Program in Mathematics Education (Certification: Teacher of Mathematics [K-12])

Five-Year Program in Science Education (Certification: Teacher of Biological Science [K-12])

Five-Year Program in Science Education (Certification: Teacher of Physical Science and/or Physics Education [K-12])

Five-Year Program in School of Environmental and Biological Sciences/GSE Five-Year Ed.M. (Certification Program in Agricultural Science Education [K-12])

Five-Year Program in Elementary Education [K-6] with English as a Second Language [ESL] (Certification: Bilingual / Bicultural Certification)

Postbaccalaureate Teacher Preparation Programs (Ed.M.) (GSE)

POSTBACCALAUREATE TEACHER PREPARATION PROGRAMS (ED.M.)

NOTE: New Teacher Education programs are currently under development. These new programs will be in effect for applicants to the Summer/Fall 2025 cohorts. Please refer to the GSE website for the most up to date information on these programs.

Postbaccalaureate Programs in the Department of Educational Theory, Policy, and Administration (GSE)

POSTBACCALAUREATE PROGRAMS IN THE DEPARTMENT OF EDUCATIONAL THEORY, POLICY, AND ADMINISTRATION

NOTE: New Teacher Education programs are currently under development. These new programs will be in effect for applicants to the Summer/Fall 2025 cohorts. Please refer to the GSE website for the most up to date information on these programs.

Ed.M. in Social Studies Education (Certification: Teacher of Social Studies [K-12])

Ed.M. in Social Studies Education (Certification: Teacher of Social Studies [K-12]) (GSE)

ED.M. IN SOCIAL STUDIES EDUCATION (CERTIFICATION: TEACHER OF SOCIAL STUDIES [K-12])

Coordinator: Benjamin Justice (848-932-0679; email: ben.justice@gse.rutgers.edu);

Please visit the website.

Program Description: The Ed.M. program with (K-12) teacher certification in social studies education is designed for individuals who possess a bachelor's degree in a field related to social studies instruction in schools and who do not already possess a New Jersey teaching certificate. Certificates are recommended only in conjunction with the completion of the requirements for the Ed.M. degree.

The goals of the program are:

- To develop students' critical examination of a variety of approaches to social studies teaching and curriculum

- To provide practice using these approaches and considering the results
- To provide opportunities to examine major disputes in social studies education and the relation of social studies education to societal issues
- To familiarize students with schools and schooling in theory and practice

Education Requirements:

Social Studies Education (15 credits)

05:300:472 Materials, Methods, and Assessment in Social Studies (3)

15:257:560 Introduction to Social Studies Education (3)

15:257:561 Analysis of Social Studies Curricula (3)

15:257:562 Workshop in Social Studies Education (3)

Graduate-level elective in social studies education (3)

Common Professional Education Core (18 credits)

05:300:306 Introduction to Educational Psychology: Principles of Classroom Learning (3)

05:300:450 Urban Education I (1.5)

05:300:451 Urban Education II (1.5)

05:300:452 Teaching Emerging Bilinguals in the K-12 Classroom I (1.5)

05:300:453 Teaching Emerging Bilinguals in the K-12 Classroom II (1.5)

15:255:534 Classroom Organization for the Inclusive and Special Classroom (3)

15:293:523 Inclusive Teaching in Education (3)

Choose one from the following:

15:255:539 Communities, Schools, and Social Justice

15:253:540 Teaching English Language Learners

05:300:406 Community-Based Language Learning (3)

Clinical Experience (20 credits)

15:255:530 Clinical Experience Phase 1 (1)

15:255:531 Clinical Practice Phase 2 (4)

15:255:535 Clinical Phase 3 (9)

15:255:536 Clinical Practice Seminar (6)

Major and Social Science Requirements

Every candidate for certification in social studies education must have completed a full major in one of the following: history, political science, economics, sociology, geography, anthropology, American studies, or area/gender/ethnic studies such as Africana studies, women's studies, Latino and Caribbean studies, etc. (Please note: art history is not an acceptable major.)

- When a student's major is in one of the five core content areas (world history, U.S. history, political science, economics, or geography), then the student will need one course in each of those areas that they did not major in, except economics.
- When a student's major is sociology, anthropology, American studies, or area/gender/ethnic studies such as Africana studies, women's studies, Latino and Caribbean studies, etc., then the student must complete 30 credits across the five content areas, including at least one 3-credit course in American history/New Jersey history, world history, civics/government, and geography.
- Students who do not have an appropriate social studies major must complete 30 credits in one of the core content areas. Twelve of those 30 credits must be at the 300 level or higher.
- All students who did not major in history must have completed at least 15 credits in world or U.S. history.
- All social studies credits must be completed before earning the master's degree.

While it is not a requirement, we strongly urge all students to take an introductory-level economics course before completing the program.

School of Environmental and Biological Sciences/GSE Ed.M. in Agricultural Science Education (GSE)

SCHOOL OF ENVIRONMENTAL AND BIOLOGICAL SCIENCES/ GSE ED.M. IN AGRICULTURAL SCIENCE EDUCATION

Coordinator: Thomas Leustek (848-932-3510; leustek@sebs.rutgers.edu)

Please visit the website.

Program Description: The Ed.M. program with (K-12) teacher certification agricultural science education, offered by the GSE and Rutgers School of Environmental and Biological Sciences (SEBS), is designed for individuals who possess a bachelor's degree in agricultural science or a closely related field and who wish to pursue certification and a master's degree in education. Certificates are recommended only in conjunction with the completion of the requirements for the Ed.M. degree.

The program has four major goals:

1. To help students develop a view of agricultural science as a knowledge-building enterprise and to be able to describe the practices associated with agricultural sciences.

2. To help students learn pedagogical content knowledge of agricultural sciences, i.e., content-specific teaching methods in this discipline including supervised agricultural education.
3. To familiarize students with current state and national standards in agricultural science education.
4. To provide students with the knowledge and skills of integrating technology into agricultural science instruction.

Education Requirements:

Phase 1 (first Summer) (0 credits)

Working with Minors Online Training (NC)

School Law Module (NC)

Phase 1 (First fall) (10 credits)

15:255:530 Clinical Experience Phase 1 (1)

05:300:450 Urban Education 1 (1.5)

05:300:452 Teaching Emerging Bilinguals in PK-12 Classrooms 1 (1.5)

05:300:306 Educational Psychology: Principles of Classroom Learning (3)

11:020:425 Developing Ideas in Agricultural Education (3)

Phrase 2 (First spring) (10 credits)

05:300:451 Urban Education 2 (1.5)

05:300:453 Teaching Emerging Bilinguals in PK-12 Classroom 2 (1.5)

15:255:531 Clinical Practice Phase 2 (4)

11:020:426 Teaching Agriculture and Food systems (3)

Phase 3 (Second summer) (6 credits)

15:293:534 Classroom Organization for Inclusive and Special Classrooms (3)

Grad Level Elective (3)

Phase 3 (Second fall) (15 credits)

15:255:535 Clinical Practice Phase 3 (9)

15:255:532 Clinical Practice Phase 3 Seminar (6)

Phase 4 (Second spring) (12 credits)

05:300:406 Community-based Language Learning; or 15:253:540 Teaching English Language Learners; or 15:255:539 Students, Communities, and Social Justice (3)

05:300:462 Demonstrations and Technology in Science Teaching (Biology) (3)

15:293:523 Inclusive teaching in Education (3)

Grad level Elective (3)

Agricultural Science Specialization: For certification as an Agriculture teacher, applicants must have completed a Bachelors degree with minimum of 30 credits in a coherent sequence in the subject field of Agriculture. A coherent sequence requires that at least 12 credits are completed at the advanced level of study (junior, senior or graduate level). Examples of courses accepted for Agriculture include animal science, plant science, forestry, natural resources, food science and horticulture. Related courses may be accepted depending on the course description/ content. students must consult with their advisor to determine if additional coursework in agriculture is required.

Ed.M. in Dance Education (Certification: Teacher of Dance) (GSE)

ED.M. IN DANCE EDUCATION (CERTIFICATION: TEACHER OR DANCE)

Director: Frederick Curry (848-932-1372; Email: fcurry@mgsa.rutgers.edu)

Please visit the website.

The postbaccalaureate Ed.M. program with (K-12) teacher certification in dance education is designed for individuals who possess a baccalaureate degree and who wish to pursue PK-12 dance teacher certification and a master's degree in education at the same time. Certificates are recommended only in conjunction with the completion of the requirements for the Ed.M. degree.

The goal of the program is to prepare students with the knowledge, skills, and dispositions needed to be an effective PK-12 dance educator. The program has five supporting aims:

1. To develop students' knowledge of dance-as-art as an educational practice, scholarly field, and community of practice.
2. To increase students' knowledge about the pedagogy of teaching dance and how individual differences among children with respect to abilities and social, economic, and cultural backgrounds influence learning.
3. To support students in examining dance learning contexts for their potential to nurture identity formation, engender empathy, embrace diverse perspectives, and shape social transformation.
4. To empower students as advocates of dance-as-art state mandates who strive to ensure educational equity for all PK-12 children.
5. To increase students' abilities to develop curriculum; apply strategies for instruction, class management, and assessment; conduct research; and serve in leadership roles, providing them with practical teaching experiences.

DANCE SPECIALIZATION: Before teacher certification can be recommended, the student must have completed a minimum of 30 credits in dance. Fulfillment of dance courses is not required for admission into the program and may be completed co-requisitely during the master's degree program. Courses appearing on an undergraduate transcript that may satisfy these requirements must be comprehensive and representative of core artistic process content in dance, including knowledge and experience in Creating, Performing, Responding, and Historical/Cultural inquiry as aligns with the New Jersey Core Curriculum Content Standards, Performing Arts-Dance and New Jersey Professional Teaching Standard Four: Content Knowledge.

PROGRAM REQUIREMENTS

Note: Courses must be 300-level or above to count toward graduate credits. 300- and 400-level courses must be registered for with a G-prefix.

Dance Education (24 credits)

07:207:405 Motor Learning and Control Dance Pedagogy (3)
07:207:406 Introduction to Curriculum Design and Assessment for Dance (3)
07:207:407 Dance Technique Pedagogy (3)
07:207:408 Creative Dance Choreography Pedagogy (3)
07:207:501 Teaching Concepts in Dance for Students with Special Needs (3)
08:207:502 Embodied Dance History Pedagogy (3)
08:207:511 Leadership in Dance Education (3)
08:207:510 Introduction to Research in Dance Education (3)

Common Professional Education Core (15 credits)

05:300:306 Educational Psychology: Principles of Classroom Learning (3)
05:300:450 Urban Education I (1.5)
05:300:451 Urban Education II (1.5)
05:300:452 Teaching Emerging Bilinguals in PK-12 Classrooms I (1.5)
05:300:453 Teaching Emerging Bilinguals in PK-12 Classrooms II (1.5)
15:255:534 Classroom Organization for Inclusive and Special Classrooms (3)
15:255:539 Students, Communities, and Social Justice (Kinetic Connections Section) (3)

Clinical Experience (20 credits)
15:255:530 Clinical Experience Phase 1 (1)
15:255:531 Clinical Practice Phase 2 (4)
15:255:535 Clinical Practice Phase 3 (9)
15:255:536 Clinical Practice Phase 3 Seminar (6)

General Education Requirements
15:255:503 Introduction to teaching with Digital Tools **OR** 05:300:350 Education and Computers; 05:300:307 Human Development: Birth through the Transition to Adulthood

Students must complete a minimum of **60 credits** in liberal arts to earn the master's degree. Courses appearing on an undergraduate transcript may satisfy these requirements. Neither education courses nor any other performance-based or vocationally-oriented coursework (accounting, engineering, human resource management, public health, social work, etc.) may be counted toward the 60 liberal arts credits; no Rutgers School 05, School 15, or E-credit courses may be included.

Ed.M. in Elementary Education (Certification: Teacher of Elementary Education [K-6]) (GSE)

ED.M. IN ELEMENTARY EDUCATION (CERTIFICATION: TEACHER OF ELEMENTARY EDUCATION [K-6])

Coordinator: Amy Lewis (848-932-0683; Email: amy.lewis@gse.rutgers.edu)

Please visit the website.

Program Description: The Ed.M. program with (k-6) teacher certification in elementary education is designed for individuals who possess a bachelor's degree and who wish to pursue certification and a master's degree in education at the same time. Certificates are recommended only in conjunction with the completion of the requirements for the Ed.M. degree.

The program has four major goals:

- To foster a vision of learning as an active process in which students construct their own knowledge and understandings
- To foster a vision of teaching that promotes depth of understanding and problem solving rather than mere curriculum coverage and that recognizes children's individual and cultural differences
- To prepare teachers who are knowledgeable about current research in learning, teaching, and child development so they can make informed decisions about educational practice and help to bring about change in schools
- To prepare prospective teachers to be teacher-researchers who reflect on their own practice

Education Requirements:

Elementary Education (25 credits)
05:300:304 Arts Across the Curriculum (3)
05:300:494 Literacy Development in the Early Years (3)
05:300:495 Literacy Development in Elementary and Middle School (3)
15:251:561 Teaching Mathematics in PK and Elementary 1: Operations, Algebra, and Place Value (2)
15:251:562 Teaching Mathematics in the Elementary 2: Fractions, Geometry, and Data Analysis (2)
15:256:554 Science Pre-K and the Elementary School: Learning and Assessment (3) 15:257:564 Teaching Social Studies in the Elementary School (3)
15:251:580 Inquiry Based Teaching: Learning and Assessment (3)

Graduate-level electives (3)

Common Professional Education Core (18 credits)
05:300:306 Introduction to Educational Psychology: Principles of Classroom Learning (3)
05:300:450 Urban Education I (1.5)
05:300:451 Urban Education II (1.5)
05:300:452 Teaching Emerging Bilinguals in the K-12 Classroom I (1.5)
05:300:453 Teaching Emerging Bilinguals in the K-12 Classroom II (1.5)
15:255:534 Classroom Organization for the Inclusive and Special Classroom (3)
15:293:523 Inclusive Teaching in Education (3)
Choose one from the following:
15:255:539 Communities, Schools, and Social Justice (3)
15:253:540 Teaching English Language Learners (3)
05:300:406 Community-Based Language Learning (3)

Clinical Experience (20 credits)
15:255:530 Clinical Experience Phase 1 (1)
15:255:531 Clinical Practice Phase 2 (4)
15:255:535 Clinical Practice Phase 3 (9)
15:255:536 Clinical Practice Seminar (6)

Major Requirements
Almost any major offered by the Faculty of Arts and Sciences is acceptable for this program. A major in one of the subject areas taught in the middle school grades (English, mathematics, sciences, social studies), however, will make the program requirements much easier to accomplish. Please check with the program faculty about your choice of major as early as possible in your undergraduate career.

Subject Specialization (15 credits)
At least 15 credits of college-level work must be completed in the subject field that will be the specialization. Any subject fitting into one of the following four areas is appropriate: English/language arts, mathematics, science, or social studies. Middle school specialization in more than one field (i.e., math and social studies) is possible in New Jersey; however, the Graduate School of Education is only able to recommend students for one middle school specialization. Upon completion of the program, students may apply to the state for additional certifications if they have the appropriate coursework.

Ed.M. in English Education (Certification: Teacher of English) (GSE)

ED.M. IN ENGLISH EDUCATION (CERTIFICATION: TEACHER OF ENGLISH)

Coordinator: Cheryl McLean (848-932-0801; email: cheryl.mclean@gse.rutgers.edu)

Please visit the website.

Program Description: The Ed.M. program with (K-12) teacher certification in English education is designed for individuals who possess a bachelor's degree in English or a related field and who wish to pursue certification and a master's degree in education at the same time. Certificates are recommended only in conjunction with the completion of the requirements for the Ed.M. degree.

The program has three major goals:

- To encourage students to articulate and critique their vision of the teaching of English
- To help students develop a repertoire of instructional strategies that will help them enact that vision in the classroom
- To provide field experiences that will allow students to bring the research and theory they have studied into practice

Education Requirements:

English Education (21 credits)

05:300:421 Language and Linguistics I: Exploring Language, Culture, and Power (3)

05:300:422 Teaching Literacy: Readers, Texts, and Contexts (3)

05:300:423 Teaching Writing: Social and Cognitive Dimensions (3)

15:252:513 Differentiating Instruction in the English Language Arts (3)

15:252:524 Grammar for Educators (3)

15:252:615 Multimodal and Digital Literacies (3) or

15:252:592 Teaching Struggling Readers (3)

Graduate-level electives (3)

Common Professional Education Core (18 credits)

05:300:306 Introduction to Educational Psychology: Principles of Classroom Learning (3)

05:300:450 Urban Education I (1.5)

05:300:451 Urban Education II (1.5)

05:300:452 Teaching Emerging Bilinguals in the K-12 Classroom I (1.5)

05:300:453 Teaching Emerging Bilinguals in the K-12 Classroom II (1.5)

15:255:534 Classroom Organization for the Inclusive and Special Classroom (3)

15:293:523 Inclusive Teaching in Education (3)

Choose one from the following:

15:255:539 Communities, Schools, and Social Justice (3)

15:253:540 Teaching English Language Learners (3)

05:300:406 Community-Based Language Learning (3)

Clinical Experience (20 credits)

15:255:530 Clinical Experience Phase 1 (1)

15:255:531 Clinical Practice Phase 2 (4)

15:255:535 Clinical Practice Phase 3 (9)

15:255:536 Clinical Practice Seminar (6)

Major Requirements

Every candidate for certification in English education must complete a full major in English.

Ed.M. in Language Education (Certification: Teacher of English as a Second Language [ESL]) (GSE)

ED.M. IN LANGUAGE EDUCATION (CERTIFICATION: TEACHER OF ENGLISH AS A SECOND LANGUAGE [ESL])

Coordinator: Mary Curran (848-932-0790; email: mary.curran@gse.rutgers.edu)

Please visit the website.

Program Description: The Ed.M. program in Language Education with ESL certification is designed **for individuals who possess a permanent New jersey Standard Instructional Certificate or Certificate of Eligibility with Advanced Standing (CEAS)** in a content field or elementary education and who wish to become certified to teach English as a Second Language.

The Ed.M. program in language education is designed to extend and diversify the professional preparation of certified teachers who seek to enhance their instructional skills and knowledge in English as a second language education. The goal of the program is to provide students with a thorough understanding of the nature of language, the process of second language acquisition, the relationship between language and culture, and successful models of second language instructional strategies.

The program requires a minimum of 30 credits of study (no transfer credits permitted) beyond the baccalaureate degree. It provides for study in the area of linguistics, language pedagogy, and the cultural context of language education, as well as the opportunity to select courses in elective areas. At the end of the coursework, students must pass a comprehensive examination.

Education Requirements:

English as a Second Language Education (21 credits)

05:300:539 Methods for Teaching and Assessing English Language Learners (3)

05:300:430 Principles of Language Learning: Second and World Language Acquisition (3)

05:300:433 or 15:253:523 Language and Culture (3)

05:300:434 Foundations of Language (3)

15:253:537 Language in Society (3)

Graduate-level electives in foreign language education (6)

Common Professional Education Core (18 credits)

05:300:306 Introduction to Educational Psychology: Principles of Classroom Learning (3)

05:300:450 Urban Education I (1.5)

05:300:451 Urban Education II (1.5)

05:300:452 Teaching Emerging Bilinguals in the K-12 Classroom I (1.5)

05:300:453 Teaching Emerging Bilinguals in the K-12 Classroom II (1.5)

15:255:534 Classroom Organization for the Inclusive and Special Classroom (3)

15:293:523 Inclusive Teaching in Education (3)

Choose one from the following:

15:255:539 Communities, Schools, and Social Justice (3)

15:253:540 Teaching English Language Learners (3)

05:300:406 Community-Based Language Learning (3)

Clinical Experience (20 credits)

15:255:530 Clinical Experience Phase 1 (1)

15:255:531 Clinical Practice Phase 2 (4)

15:255:535 Clinical Practice Phase 3 (9)

15:255:536 Clinical Practice Seminar (6)

Major Requirements

Every candidate for certification in English as a Second Language education must complete a full major in a foreign language, English, or applied linguistics.

Language and Cultural Proficiency Requirements

Proficiency in the target language is to be demonstrated through an Oral Proficiency Interview (OPI) in the target language administered by the American Council on the Teaching of Foreign Languages (ACTFL). All students seeking certification in ESL are required to pass an Oral Proficiency Interview and a Written Proficiency Test (WPT) in English administered by ACTFL. To arrange the OPI visit the Language Testing website. Call 914-963-7110 to schedule the WPT. OPI and WPT results must be on file with the Office of Student and Academic Services prior to student teaching.

Ed.M. in Language Education (Certification: Teacher of World Languages) (GSE)

ED.M. IN LANGUAGE EDUCATION (CERTIFICATION: TEACHER OF WORLD LANGUAGES)

Coordinator: Mary Curran (848-932-0790; email: mary.curran@gse.rutgers.edu)

Please visit the website.

Program Description: The Ed.M. program with (K-12) teacher certification in foreign language education is designed for individuals who possess a bachelor's degree and who wish to pursue certification and a master's degree in education at the same time. Certificates are recommended only in conjunction with the completion of the requirements for the Ed.M. degree.

The major goals of the program are to provide students with a thorough understanding of:

- Language analysis, including the analysis of the phonology, morphology, and syntax of the target language as well as the comparison of similarities and differences between English and the target language
- The process of second language acquisition as it concerns foreign language in a classroom context and as it varies by age levels
- Language assessment and test development procedures as they apply to foreign learning
- The target culture and the principal ways in which it resembles and differs from that of the United States
- Strategies of teaching the target language activities; creating situations that cause students to use the language; creating learning situations that bring the reality of the culture closer to the student; and devising activities that develop student's knowledge of the structure of the target language.

Education Requirements:

Foreign Language Education (21 credits)

05:300:434 Foundations of Language (3)

05:300:438 Methods for Teaching and Assessing World Language Learners (3)

15:253:520 Principles of Language Learning: Second and World Language Acquisition (3)

15:253:523 Language and Culture (3)

15:253:537 Language in Society (3)

Graduate-level electives in foreign language education (6)

Common Professional Education Core (18 credits)

05:300:306 Introduction to Educational Psychology: Principles of Classroom Learning (3)

05:300:450 Urban Education I (1.5)

05:300:451 Urban Education II (1.5)

05:300:452 Teaching Emerging Bilinguals in the K-12 Classroom I (1.5)

05:300:453 Teaching Emerging Bilinguals in the K-12 Classroom II (1.5)

15:255:534 Classroom Organization for the Inclusive and Special Classroom (3)

15:293:523 Inclusive Teaching in Education (3)

Choose one from the following:

15:255:539 Communities, Schools, and Social Justice (3)

15:253:540 Teaching English Language Learners (3)

05:300:406 Community-Based Language Learning (3)

Clinical Experience (20 credits)

15:255:530 Clinical Experience Phase 1 (1)

15:255:531 Clinical Practice Phase 2 (4)

15:255:535 Clinical Practice Phase 3 (9)

15:255:536 Clinical Practice Seminar (6)

Major Requirements

Every candidate for certification in foreign language education must complete a full major in an approved target language.

Language and Cultural Proficiency Requirements

Proficiency in the target language is to be demonstrated through an Oral Proficiency Interview (OPI). To schedule the OPI, contact the American Council on the Teaching of Foreign Languages (ACTFL). OPI results must be on file with the Office of Student and Academic Services prior to student teaching.

There is no OPI for Latin; however, there is a Latin test requirement.

Languages available (with or without ESL) as part of the post-baccalaureate program:

Arabic

Greek

Hebrew

Korean

Portuguese

Arabic + ESL

Greek + ESL

Hebrew + ESL

Korean + ESL

Portuguese + ESL

Other Foreign Language

Other + ESL

Ed.M in Language Education and English as a Second Language [ESL] Education and Foreign Language Education [K-12]) (GSE)

ED.M. IN LANGUAGE EDUCATION AND ENGLISH AS A SECOND LANGUAGE [ESL] EDUCATION AND FOREIGN LANGUAGE EDUCATION [K-12]

Coordinator: Mary Curran (848-932-0790; email: mary.curran@gse.rutgers.edu)

Please visit the website.

Program Description: The Ed.M. program with (K-12) teacher certification in foreign language education and English as a second language (ESL) is designed for individuals who possess a bachelor's degree and who wish to pursue certification and a master's degree in education at the same time. Certificates are recommended only in conjunction with the completion of the requirements for the Ed.M. degree.

The major goals of the program are to provide students with a thorough understanding of:

- Language analysis, including the analysis of the phonology, morphology, and syntax of the target language as well as the comparison of similarities and differences between English and the target language.
- Language analysis involving the analysis of the phonology, morphology, and syntax of American English as well as the comparison of similarities and differences between English and other languages.

- The process of second language acquisition as it concerns foreign language learning and the learning of ESL in a classroom context and as it varies by age levels.
- Language assessment and test development procedures as they apply to foreign language and ESL learning
- The target culture and the principal ways in which it resembles and differs from that of the United States
- The social nature of language and its relevance to education
- American culture and the principal ways in which it resembles and differs from that of other societies
- Strategies of teaching the target language activities; creating situations that cause students to use the language; creating learning situations that bring the reality of the culture closer to the student; and devising activities that develop students' knowledge of the structure of the target language
- Techniques of teaching ESL in a classroom setting, specifically those intended to foster student interactions through language activities, based on culturally meaningful situations, which stimulate the acquisition of linguistic and sociocultural skills characteristics in American society.

Education Requirements:

English as a Second Language Education (21 credits)

05:300:538 Methods for Teaching and Assessing World Language Learners (3)

05:300:539 Methods for Teaching and Assessing English Language Learners (3)

05:300:430 Principles of Language Learning: Second and World Language Acquisition (3)

05:300:433 or 15:253:523 Language and Culture (3)

05:300:434 Foundations of Language (3)

15:253:537 Language in Society (3)

Graduate-level elective in foreign language education (3)

Common Professional Education Core (18 credits)

05:300:306 Introduction to Educational Psychology: Principles of Classroom Learning (3)

05:300:450 Urban Education I (1.5)

05:300:451 Urban Education II (1.5)

05:300:452 Teaching Emerging Bilinguals in the K-12 Classroom I (1.5)

05:300:453 Teaching Emerging Bilinguals in the K-12 Classroom II (1.5)

15:255:534 Classroom Organization for the Inclusive and Special Classroom (3)

15:293:523 Inclusive Teaching in Education (3)

Choose one from the following:

15:255:539 Communities, Schools, and Social Justice (3)

15:253:540 Teaching English Language Learners (3)

05:300:406 Community-Based Language Learning (3)

Clinical Experience (20 credits)

15:255:530 Clinical Experience Phase 1 (1)

15:255:531 Clinical Practice Phase 2 (4)

15:255:535 Clinical Practice Phase 3 (9)

15:255:536 Clinical Practice Seminar (6)

Major Requirements

Every candidate for certification in foreign language education and English as a Second Language education must complete a full major in an approved target language.

Language and Cultural Proficiency Requirements

Proficiency in the target language is to be demonstrated through an Oral Proficiency Interview (OPI) in the target language administered by the American Council on the Teaching of Foreign Languages (ACTFL). All students seeking certification in ESL are required to pass an OPI and a Written Proficiency Test (WPT) in English administered by ACTFL. To arrange an OPI, visit the Language Testing website. Call 914-963-7110 to schedule the WPT. OPI and WPT results must be on file with the Office of Student and Academic Services prior to student teaching.

Ed.M. in Mathematics Education (Certification: Teacher of Mathematics) (GSE)

ED.M. IN MATHEMATICS EDUCATION (CERTIFICATION: TEACHER OF MATHEMATICS)

Coordinator: Carolyn Maher (848-932-0802; email: carolyn.maher@gse.rutgers.edu)

Please visit the website.

Program Description: The Ed.M. program with (K-12) teacher certification in mathematics education is designed for individuals who possess a bachelor's degree in mathematics or another technical field and who wish to pursue certification and a master's degree in education at the same time. Certificates are recommended only in conjunction with the completion of the requirements for the Ed.M. degree.

The program has three major goals:

- To acquaint students with the historical development of mathematics education and a variety of perspectives on current issues

- To acquaint students with the psychology of learning mathematics and how individual differences among children with respect to academic ability and social, economic, and cultural backgrounds may influence learning
- To expand the mathematics background of students, to acquaint them with a variety of methods for teaching mathematics, and to provide them with practical experiences in creating effective classroom environments for children learning mathematics

Education Requirements:

Mathematics Education (21credits)

05:300:341 High School Mathematics Content: Teaching and Assessment (3)

05:300:442 Mathematical Practices: Doing and Teaching Mathematics (3)

05:300:443 Methods of Teaching and Assessing Secondary School Mathematics (3)

15:254:540 Understanding School-Aged Students' Mathematical Learning (3)

15:254:548 Technology in Mathematics Teaching (3)

01:640:468 Connecting Advanced Mathematics to High School Math (3)

15:254:540 Understanding school-Ages Kids' Math Learning (3) OR 15:254:551 Critical Thinking and Reasoning

Common Professional Education Core (18 credits)

05:300:306 Introduction to Educational Psychology: Principles of Classroom Learning (3)

05:300:450 Urban Education I (1.5)

05:300:451 Urban Education II (1.5)

05:300:452 Teaching Emerging Bilinguals in the K-12 Classroom I (1.5)

05:300:453 Teaching Emerging Bilinguals in the K-12 Classroom II (1.5)

15:255:534 Classroom Organization for the Inclusive and Special Classroom (3)

15:293:523 Inclusive Teaching in Education (3)

Choose one from the following:

15:255:539 Communities, Schools, and Social Justice (3)

15:253:540 Teaching English Language Learners (3)

05:300:406 Community-Based Language Learning (3)

Clinical Experience (20 credits)

15:255:530 Clinical Experience Phase 1 (1)

15:255:531 Clinical Practice Phase 2 (4)

15:255:535 Clinical Practice Phase 3 (9)

15:255:536 Clinical Practice Seminar (6)

Major Requirements

Every student must complete an undergraduate major in mathematics through the School of Arts and Sciences or a major in the following from the School of Engineering: mechanical engineering, electrical engineering, civil and environmental engineering, industrial and systems engineering, or materials science and engineering.

Ed.M. in Science Education (Certification: Teacher of Biological Science) (GSE)

ED.M. IN SCIENCE EDUCATION (CERTIFICATION: TEACHER OF BIOLOGICAL SCIENCE)

Coordinator: Ravit Duncan (848-932-0792; email: ravit.duncan@gse.rutgers.edu)

Please visit the website.

Program Description: The Ed.M. program with (K-12) teacher certification in biological science education is designed for individuals who possess a bachelor's degree in one of the biological sciences or a closely related field and who wish to pursue certification and a master's degree in education at the same time. Certificates are recommended only in conjunction with the completion of the requirements for the Ed.M. degree.

The program has four major goals:

1. To help students develop a view of science as knowledge building enterprise and understand the scientific practices associated with scientific inquiry
2. To help students learn pedagogical content knowledge of biological sciences, i.e., content specific teaching methods in these disciplines
3. To familiarize students with current state and national standards in life science education
4. To provide students with the knowledge and skills of integrating technology into biological science instruction

Education Requirements:

Biological Science Education (15 credits)

05:300:462 Demonstration and Technology in Science Teaching (3)

11:300:450 Biology and Society (3)

11:300:453 Teaching and Assessment in Life Science (3)

Graduate-level electives in life science or science education (6)

Common Professional Education Core (18 credits)

05:300:306 Introduction to Educational Psychology: Principles of Classroom Learning (3)

05:300:450 Urban Education I (1.5)

05:300:451 Urban Education II (1.5)

05:300:452 Teaching Emerging Bilinguals in the K-12 Classroom I (1.5)

05:300:453 Teaching Emerging Bilinguals in the K-12 Classroom II (1.5)

15:255:534 Classroom Organization for the Inclusive and Special Classroom (3)

15:293:523 Inclusive Teaching in Education (3)

Choose one from the following:

15:255:539 Communities, Schools, and Social Justice (3)

15:253:540 Teaching English Language Learners (3)

05:300:406 Community-Based Language Learning (3)

Clinical Experience (20 credits)

15:255:530 Clinical Experience Phase 1 (1)

15:255:531 Clinical Practice Phase 2 (4)

15:255:535 Clinical Practice Phase 3 (9)

15:255:536 Clinical Practice Seminar (6)

Major Requirements

Every candidate for certification in biological science education must complete a full major in life science (animal science, biotechnology, biological science, cell biology and neuroscience, ecology and natural resources, environmental science [life science option], food science, genetics and microbiology, marine science [life science option], molecular biology, nutritional science, plant science, physiology). Regardless of the chosen major, at least 30 credits of coursework in the life sciences must be included.

Ed.M in Science Education (Certification: Teacher of Physical Science and/or Physics) (GSE)

ED.M. IN SCIENCE EDUCATION (CERTIFICATION: TEACHER OF PHYSICAL SCIENCE AND/OR PHYSICS)

Coordinator: Eugenia Etkina (848-932-0783; email: eugenia.etkina@gse.rutgers.edu)

Please visit the website.

Program Description: The Ed.M. program with (K-12) teacher certification in physical science or physics education is designed for individuals who possess a bachelor's degree in physical science of a closely related field and who wish to pursue certification and a master's degree in education at the same time. Certificates are recommended only in conjunction with the completion of the requirements for the Ed.M. degree.

The program has four major goals:

- To help students learn pedagogical content knowledge of physical sciences, i.e., content-specific teaching methods in physics and chemistry
- To provide students with a grounding in the historical and philosophical contexts of the discipline that they will be certified to teach, i.e., history and philosophy of physical science
- To provide students with research experiences in physical science. This will help them better understand how scientists work and how discipline-specific knowledge develops
- To provide students with knowledge and skills to integrate technology into physical science instruction

Education Requirements:

Physical Science Education (15 credits)

05:300:462 Demonstration and Technology in Science Teaching (3)

15:256:551 Development of Ideas in Physical Science (3)

15:256:552 Teaching and Assessment in Physical Science (3)

15:256:557 Multiple Representations in Physical Science (3)

Graduate-level electives in physical or science education (3)

Common Professional Education Core (18 credits)

05:300:306 Introduction to Educational Psychology: Principles of Classroom Learning (3)

05:300:450 Urban Education I (1.5)

05:300:451 Urban Education II (1.5)

05:300:452 Teaching Emerging Bilinguals in the K-12 Classroom I (1.5)

05:300:453 Teaching Emerging Bilinguals in the K-12 Classroom II (1.5)

15:255:534 Classroom Organization for the Inclusive and Special Classroom (3)

15:293:523 Inclusive Teaching in Education (3)

Choose one from the following:

15:255:539 Communities, Schools, and Social Justice (3)

15:253:540 Teaching English Language Learners (3)

05:300:406 Community-Based Language Learning (3)

Clinical Experience (20 credits)

15:255:530 Clinical Experience Phase 1 (1)

15:255:531 Clinical Practice Phase 2 (4)

15:255:535 Clinical Practice Phase 3 (9)

15:255:536 Clinical Practice Seminar (6)

Major Requirements

Every candidate for certification in physical science education must complete a full major in either chemistry, physics, or engineering and at least 15 credits in the other subject, or a major in chemical or biochemical engineering from the School of Engineering. Candidates for certification in physics education need to complete a major in physics, mechanical engineering, civil and environmental engineering, industrial and systems engineering, or materials science and engineering.

Undergraduate Minor: Education as a Social Science (GSE)

UNDERGRADUATE MINOR: EDUCATION AS A SOCIAL SCIENCE

The education as a social science minor is designed for students interested in investigating learning and teaching in a broad range of human contexts. This minor takes a multidisciplinary approach to the study of educative practices and is premised on several key assumptions:

- Learning and teaching are fundamental human and cultural processes.
- Education is intimately bound up with social, cultural, economic, and political systems.
- Reflection and inquiry are powerful tools for exploring teaching and learning in all human contexts.

Through a minor in education, students will examine each of these assumptions by investigating educative practices in and outside of formal settings. There are many ways in which a student can complete the minor.

1. *Educational Policy and Social Justice.* This concentration will permit students to focus on issues related to the history of American education, race and American schools, and queer issues in schools.
2. *Creativity and Play.* This concentration will permit students to focus on creativity and imagination in professional settings, the arts and the young child, and the role of play in education.
3. *Global Education.* This concentration will provide students with grounding in the areas of global education, issues of migration and education, and comparative education across countries.
4. *Exceptional Learners.* This concentration provides students with knowledge of both gifted education and education for students with learning disabilities.
5. *Digital Learning.* This concentration will permit students to learn about education and computers, digital games and learning, other topics related to learning in digital learning environments.

6. *Community Studies and Civic Engagement*. This concentration is for students interested in educational leadership in informal learning settings, such as museums and community organizations.
7. *General Studies*. This concentration will allow students to take a menu of courses in education tailored to one's own interests; this concentration is also appropriate for students in the five-year urban teacher education program.

Additional track options will be offered forthcoming. See the GSE website and Degree Navigator for more information.

Nondegree State Certification Programs (GSE)

NONDEGREE STATE CERTIFICATION PROGRAMS

Nondegree State Certification Programs in the Department of Educational Psychology

Nondegree State Certification Programs in the Department of Educational Theory, Policy, and Administration

Nondegree Programs in the Department of Learning and Teaching

Nondegree State Certification Programs in the Department of Educational Psychology (GSE)

NONDEGREE PROGRAMS IN THE DEPARTMENT OF EDUCATIONAL PSYCHOLOGY

Endorsement Program in Early Childhood Education [P-3] (Certification: Teacher of Preschool through Grade 3)

Endorsement Program in Learning Disabilities Teacher-Consultant (Certification: Learning Disabilities Teacher-Consultant Educational Services [K-12])

Endorsement Program in Special Education (Certification: Teacher of Students with Disabilities)

Nondegree State Certification Programs in the Department of Educational Theory, Policy, and Administration (GSE)

NONDEGREE STATE CERTIFICATION PROGRAMS IN THE DEPARTMENT OF EDUCATIONAL THEORY, POLICY, AND ADMINISTRATION

Endorsement Program for Principal (Certification: New Jersey Principal)

Endorsement Program in Supervision (Certification: Supervisor)

Endorsement Program for School Administrator (Certification: New Jersey School Administrator)

Endorsement Program for Teacher Leadership (Certification: Teacher Leadership)

Nondegree State Certification Programs in the Department of Learning and Teaching (GSE)

NONDEGREE STATE CERTIFICATION PROGRAMS IN THE DEPARTMENT OF LEARNING AND TEACHING

Endorsement Program in Bilingual/Bicultural Education (Certification: Teacher of Bilingual/Bicultural Education [K-12])

Endorsement Program in English as a Second Language (Certification: Teacher of English as a Second Language [K-12])

Endorsement Program in English as a Second Language [ESL] and Bilingual/Bicultural Education

Endorsement Program in Reading Specialist Education (Certification: Reading Specialist)

Nondegree Skill Development Programs (GSE)

NONDEGREE SKILL DEVELOPMENT PROGRAMS

Nondegree Skill Development Programs in the Department of Educational Psychology
Nondegree Skill Development Programs in the Department of Learning and Teaching
Nondegree Skill Development Programs in Higher Education

Nondegree Skill Development Programs in the Department of Educational Psychology (GSE)

PROGRAMS IN THE DEPARTMENT OF EDUCATIONAL PSYCHOLOGY

Athletic Coaching in Education

Gifted Education

Maker Education

Nondegree Skill Development Programs in the Department of Learning and Teaching (GSE)

NONDEGREE SKILL DEVELOPMENT PROGRAMS IN THE DEPARTMENT OF LEARNING AND TEACHING

Adult ESL and Literacy Education

Educational Technology

Educational Technology for Adult Learners

Higher Education Teaching

Human Resources Development

Teacher Leadership

Nondegree Skill Development Programs in Higher Education (GSE)

PROGRAMS IN HIGHER EDUCATION

Community College Leadership Graduate Certificate

Endorsement Program in Bilingual/Bicultural Education (Certification: Teacher of Bilingual/Bicultural Education [K-12]) (GSE)

ENDORSEMENT PROGRAM IN BILINGUAL/BICULTURAL EDUCATION (CERTIFICATION: TEACHER OF BILINGUAL/ BICULTURAL EDUCATION [K-12])

Coordinator: Mary Curran (848-932-0790; email: mary.curran@gse.rutgers.edu)

Please visit the website.

Program Description: The bilingual/bicultural nondegree endorsement online program is designed for individuals who possess a New Jersey Standard teaching certificate or Certificate of Eligibility with Advanced Standing (CEAS) in mathematics, science, social studies, English as a second language, or elementary education and who wish to earn the bilingual/bicultural endorsement. Candidates will be recommended for the bilingual/bicultural endorsement upon completion of the 12-credit program. All 12 credits in the endorsement program must be completed online at Rutgers University. No transfer credits will be accepted.

The program does not lead to a degree and is usually completed exclusively through online courses. If students are interested in taking an endorsement course offered on the New Brunswick campus, they must obtain special permission from the instructor.

Students admitted to this non-degree program may apply to the *Ed.M. in Language Education with Endorsement in Bilingual/Bicultural Education* program prior to completing 12 credits and, upon acceptance, may complete both the certificate and the Master's degree. It is essential to apply early because taking the courses does not guarantee acceptance to the Master's program.

Applicants interested in obtaining their initial teaching certification should apply to the *Ed.M. certification program in English as a Second language* rather than this program. Bilingual/Bicultural certification is not available as an initial certification program.

Education Requirements (12 credits):

Theoretical Foundations of Language Development (3 credits)

05:300:430 **or** 15:253:520 Principles of Language Learning: Second and World Language Acquisition (3)

Language and Linguistics (3 credits)

05:300:434 **or** 15:253:530 Foundations of language (3 credits)

Culturally Sustaining Language Pedagogy and Practice (6 credits)

15:253:510 Language Learning in Content Areas (3 credits)

15:253:522 Bilingual-Bicultural Education (3 credits)

Language and Cultural Proficiency Requirements

1. Proficiency in English to be demonstrated through an Oral Proficiency Interview (OPI) and a Writing Proficiency Test (WPT). To schedule the OPI and WPT, contact the American Council on the Teaching of Foreign Languages (ACTFL).

2. Proficiency in the language to be taught demonstrated through an OPI and a WPT.

Endorsement Program in English as a Second Language (Certification: Teacher of English as a Second Language [K-12]) (GSE)

ENDORSEMENT PROGRAM IN ENGLISH AS A SECOND LANGUAGE (CERTIFICATION: TEACHER OF ENGLISH AS A SECOND LANGUAGE [K-12])

Coordinator: Mary Curran (848-932-0790; email: mary.curran@gse.rutgers.edu)

Please visit the website.

Program Description: The English as a Second Language (ESL) nondegree endorsement program is designed for individuals who possess a New Jersey Standard or Certificate of Eligibility with Advanced Standing (CEAS) in a content field or elementary education and who wish to become certified to teach English as a Second Language. Candidates holding a New Jersey Certificate of Eligibility (CE) in English as a Second Language and who are employed as a teacher and enrolled in an alternate route educator preparation program may also apply. Candidates with a CE must successfully complete both their 15-credit program and alternate route program prior to being recommended for the ESL endorsement. Candidates will be recommended for the ESL endorsement upon completion of the 15-credit program. All 15 credits in the endorsement upon completion of the 15-credit program. All 15 credits in the endorsement program must be completed at Rutgers University. No transfer credits will be accepted.

The program does not lead to a degree and is usually completed exclusively through online courses. If students are interested in tasking an endorsement course offered on the New Brunswick campus, they must obtain special permission from the instructor.

Students admitted to this non-degree program may apply to the Ed.M. in Language Education with Endorsement in ESL program prior to completing 12 credits and, upon acceptance, may complete both the certificate and the Master's degree. It is essential to apply early because taking the courses does not guarantee acceptance to the Master's program.

Applicants interested in obtaining their initial teaching certification must apply to the *Ed.M. certification program in English as a Second Language* rather than this program.

Education Requirements (15 credits):

Theoretical Foundations of Language Development (3 credits)

05:300:430 or 15:253:520 Principles of Language Learning: Second and World Language Acquisition (3)

Language and Linguistics (3 credits)

05:300:434 or 15:253:530 Foundations of Language (3)

Culturally Sustaining Language Pedagogy and Practice (6 credits)

15:253:510 Language Learning in Content Areas (3)

15:253:539 Methods for Teaching and Assessing English Language Learners (3)

Historical and Cultural Backgrounds of Emerging Bilinguals (3 credits)

05:300:433 or 15:253:523 Language and Culture (3)

Endorsement Program in English as a Second Language [ESL] and Bilingual/Bicultural Education (GSE)

ENDORSEMENT PROGRAM IN ENGLISH AS A SECOND LANGUAGE [ESL] AND BILINGUAL/BICULTURAL EDUCATION

Coordinator: Mary Curran (848-932-0790; email: mary.curran@gse.rutgers.edu)

Please visit the website.

Program Description: The English as a Second Language (ESL) and Bilingual/Bicultural non-degree endorsement program is designed for individuals who possess a New Jersey Standard teaching certificate or Certificate of Eligibility with Advanced Standing (CEAS) in mathematics, science, social studies, or elementary education and who wish to earn the ESL and Bilingual/Bicultural endorsements. Candidates holding a New Jersey Certificate of Eligibility (CE) in ESL and Bilingual/Bicultural Education and who are employed as a teacher and enrolled in an alternate route educator preparation program may also apply. The program consists of six courses (18 credits) and does not, by itself, lead to an academic degree. Candidates with a CE must successfully complete both their 18-credit program and alternate route program prior to being recommended for the Bilingual/Bicultural endorsement. Candidates will be recommended for the ESL and Bilingual/Bicultural endorsements upon completion of the 18-credit program. All 18 credits in the endorsement program must be completed at Rutgers University. No transfer credits will be accepted.

The program does not lead to a degree and is usually completed exclusively through online courses. If students are interested in taking an endorsement course offered on the New Brunswick campus, they must obtain special permission from the instructor.

Students admitted to this non-degree program may apply to the Ed.M. in Language Education with Endorsement in ESL and Bilingual/Bicultural Education program prior to completing 12 credits and, upon acceptance, may complete both the certificate and the Master's degree. It is essential to apply early because taking the courses does not guarantee acceptance to the Master's program.

Applicants interested in obtaining their initial teaching certification should apply to the Ed.M. certification program in English as a Second Language rather than this program. Bilingual/Bicultural certification is not available as an initial certification program.

Education Requirements (18 credits):

Theoretical Foundations of Language Development (3 credits)

05:300:430 or 15:253:520 Principles of Language Learning: Second and World Language Acquisition (3)

Language and Linguistics (3 credits)

05:300:434 or 15:253:530 Foundations of Language (3)

Culturally Sustaining language Pedagogy and Practice (9 credits)

15:253:510 Language Learning in Content Areas (3)

15:253:522 Bilingual-Bicultural Education (3)

15:253:539 Methods for Teaching and Assessing English language Learners (3)

Historical and Cultural Backgrounds of Emerging Bilinguals (3 credits)

05:300:433 or 15:253:523 Language and Culture (3)

Endorsement Program in Reading Specialist Education (Certification: Reading Specialist) (GSE)

ENDORSEMENT PROGRAM IN READING SPECIALIST EDUCATION (CERTIFICATION: READING SPECIALIST)

Coordinator: Lesley Morrow (848-932-0764; email lesley.morrow@gse.rutgers.edu)

Please visit the website.

Program Description: This program is designed for individuals who wish to receive the Reading Specialist Certification by taking GSE courses on-campus and online. The certification permits individuals to work as a reading/literacy specialist in public and private schools grades K-12. The program is designed to enable teachers to plan programs appropriate for children of differing abilities and diverse cultural backgrounds based on research and theory, to foster a vision of literacy learning as an active social process in which students become engaged readers with strategies for independent reading and the motivation to read for pleasure and for information.

In order to apply for this program, an applicant must already possess a New Jersey Standard Instructional Certificate, have two years full-time teaching experience, and must hold a master's degree. (Anyone interested in becoming certified as a reading specialist while simultaneously earning a master's degree must apply to the Ed.M. program in reading with certification rather than this program.)

Students admitted to this non-degree program may apply to the Ed.M. program in Reading with Reading Specialist Certification, **prior to completing 12 credits** and, **upon acceptance**, may complete both the Reading Specialist Certificate and the master's degree. Additional requirements beyond the 30 required credits for the certificate include taking 6 credits in consultation with an adviser and completing a portfolio project. It is essential that students apply early because taking the courses does not guarantee acceptance to the master's program.

Education Requirements (30 credits):

Reading Specialist Core (12 credits)

15:299:561 Theoretical Foundations of Literacy, Curriculum, Leadership, and Practice (3)

15:299:564 Diagnosis and Correction of Reading Difficulties (3)

15:299:565 Clinical Practicum (Laboratory in Remedial Reading) (3)

15:299:566 Seminar in Reading Research, Curriculum, and Supervision (3)

Courses in Literacy Methods (9 credits)

15:250:592 Summer Institute in Literacy (3)

15:252:517 Teaching the Language Arts (3)

15:252:519 Teaching Writing for Children and Adolescents (3)

15:252:521 Teachers as Writers (3)

15:252:522 Multimodal and Digital Literacies (3)

15:252:525 Writing Project Workshop: Bringing Research and Theory into Practice (3)

15:252:526 Teaching Struggling Readers (3)

15:299:514 Literacy Development in the Early Years (3)

15:299:515 Literacy Development for Secondary-Level and Adult learners (3)

15:299:516 Literacy Development in Elementary and Middle School (3)

15:299:533 Coaching: Leadership, Supervision, and Professional Development (3)

15:299:562 Reading and Writing Across Content Disciplines (3)

Materials for Children and Adolescents (3 credits)

15:252:520 Adolescent Literature for Secondary Students (3)

15:299:509 Children's Literature in the Early Childhood and Elementary School Curriculum (3)

Study in Special Education (3 credits)

15:293:522 Learning Disabilities (3)

15:293:525 Psychology of the Exceptional Child (3)

15:293:533 Assessment and Measurement for Special Education (3)

Study in Supervision (3)

15:230:521 Supervision of Instruction (3)

15:230:512 Administration and Supervision of Elementary and Secondary Schools (3)

Ph.D. in Education Courses (16:300) (GSE)

PH.D. IN EDUCATION COURSES (16:300)

For the most recent, and often more detailed, course descriptions from most recent course offerings, please go to the syllabi site.

16:300:501 ***Proseminar in Educational Theories and Practice (3)***
Examines fundamental issues in education through the reading of major theoretical texts. Explores how those issues inform current research.

16:300:503 ***Proseminar in Educational Research (3)***
Explores selected contemporary educational issues through reading research conducted from a variety of methodological perspectives. Explores assumptions through commentaries on the conduct of educational research.

16:300:509 ***Qualitative Research Methods in Education I: Introduction (3)***
Introduction to qualitative research techniques, examining their potential and limitations for investigating educational questions and issues. Topics include interviews, field notes, and observations.

16:300:511 ***Quantitative Research Methods in Education I: Introduction (3)***
Introduction to quantitative research techniques, examining their potential and limitations for investigating educational questions and issues. Topics include one- and two-sample tests of hypotheses, analysis of variance, multiple comparison procedures, regression, and effect size.

16:300:513 ***Qualitative Research Methods in Education II: Design and Analysis (3)***
Critical examination of the philosophy and techniques of qualitative methods; design of studies and analysis of qualitative data.

16:300:515 ***Quantitative Research Methods in Education: ANOVA (3)***
Critical examination of sampling distributions, analysis of variance models, planned and post-hoc comparisons, trend analysis, randomized block designs, within-subject designs, and higher-order factorials.

16:300:516 ***Developing a Theory of Language and Literacy Education (3)***
Development of theoretical perspectives on learning and teaching of the English language arts through critical examination of the works of language and literacy theorists and their personal experiences as learners. Both breadth and depth of exploration are provided through interactions and contributions of several faculty members' and students' own investigations into the work of a particular theorist.

16:300:517 ***Qualitative Research Methods in Education III: Educational Ethnography (3)***
Intensive survey and application of methods and strategies in ethnography available to educational researchers; emphasis on fieldwork employing ethnographic data-gathering techniques that involve participant observation and interview.

16:300:518 ***Quantitative Educational Research Designs (3)***
This course is designed to introduce several categories of the most commonly used quantitative research designs in educational fields. Students will be exposed to educational research that uses these research methods and will learn the fundamental knowledge and skills necessary to design a research study in their field of interest.

16:300:519 ***Quantitative Research Methods in Education: Regression (3)***
Techniques for analyzing data gathered in nonexperimental studies, including matrix algebra, multiple regression, partial and semipartial correlations, variance partitioning, dummy and effect coding, and analysis of covariance.

16:300:520 ***Discourse Analysis in Educational Settings (3)***
Provides an in-depth exploration of the use of discourse analysis in education research for doctoral students. Students will learn about key approaches to discourse analysis in educational research, become familiar with leading empirical research in this area, and will try out discourse analytic tools in their own educational research.

16:300:532 ***Language in Education: Sociocultural Theory (3)***
Significant theory and research concerning the role of language in thinking and social life; variation in language use across social groups and situations; and the relationship between language and other aspects of human activity.
Prerequisite: Permission of instructor.

16:300:533 ***Topics in Language and Literacy Education (3)***
Focuses on a particular dimension of theory and research in language and literacy education. Explores the full range of disciplinary approaches to study issues and problems related to a specific area of focus.

16:300:536 ***Foundations of Language II (3)***
Continuation of a two-course sequence. Contrastive survey of formal and functional grammatical theories relevant to education. History of English, language change, comparative and historical linguistics, language, and dialect.
Prerequisite: Permission of instructor.

16:300:541 ***Introduction to Economics and Education (3)***
Economic concepts and their application to education; topics include demand for and supply of education, measuring return on educational investment, productivity and efficiency in the educational sector, and the relationship between human capital and economic growth.

16:300:545 ***Educational Planning and Policy Development (3)***
Problem-solving and decision-making models, including studies of values, goal establishment, performance objectives, measurement and assessment techniques, policy development and executive leadership, and information systems; the multicultural nature of society; and the identification of people with special learning needs.

16:300:551 ***Evaluation of Educational and Social Programs (3)***
Evaluation of educational and social institutions, programs, and policies, including the social context of evaluation and the political aspects of conducting educational evaluations. Compares and contrasts evaluation and research. Hands-on data analysis and interpretation using a social policy data set.
Prerequisite: Permission of instructor.

16:300:563 ***Video Data Methodology (3)***
Focuses on critical examination of studies that have used video data, design of new research that will use video data, and methodological techniques for analyzing video data.

16:300:581 ***Educational Psychology I: Theories of Development (3)***
Examination of classical and contemporary theories of human development. Themes considered include the relations between evolution and development, nature-nurture, individual-society, and biology-culture in development. Focus on change and the processes through which change occurs over the course of the human life span.

16:300:582 ***Educational Psychology II: Theories of Cognition and Instruction (3)***
Emphasizes major theories of human learning, cognition, and instruction. Topics include knowledge representation, learning and instructional strategies, domains of application, and research methods used to study these topics.

16:300:591 ***Cognitive Development (3)***
Theory and research in children's intellectual development from birth through adolescence. Neo-Piagetian, information processing, and sociocultural approaches to cognition explored. Current research, including children's memory development, social cognition, language, problem-solving, spatial thinking, and theory of mind. Implications for schooling considered.

16:300:595 ***The Psychology of Sex Differences (3)***
Current psychological theories of sex role development; evidence for and against sex differences throughout the life span; intellectual abilities, achievement, motivation, and behavior; dependence and aggression.

16:300:597 ***Language Acquisition (3)***
Theories of language acquisition and the functions of language for the child; topics include prelinguistic behavior, the nature of one-word utterances, the acquisition and development of early syntax and semantics, the relation of thought to language, and the development of communication and conversation skills.

16:300:600,601 ***Prethesis Research (BA,BA)***
Students engage in educational research under the supervision of faculty mentors.

16:300:621 ***Seminar in Literacy Education Research (3)***
Current research in literacy education and related areas of literacy; critical evaluation of published reports; development of mature ideas for writing a proposal, conducting research, and completing a thesis in these areas.
Prerequisite: Permission of instructor.

16:300:641 ***Productivity and Efficiency in Education (3)***
Examines how and where the education dollar is spent, as well as how it is raised. Definitions and measures of efficiency and productivity in primary, secondary, and postsecondary education; productivity trends in education, efficient allocation of school resources, school size and productivity, and efficiency implications of school financing methods.

16:300:643 ***Educational Change: Theory and Practice (3)***
Examination of the philosophies underlying recent educational reforms; exploration of implementation and management processes to increase the likelihood of successful outcomes.

16:300:645 ***Educational Policy and Policymaking: The Federal and State Levels (3)***
Examines the development, implementation, and effects of federal and state education policies; examples of key policy issues as cases for the exploration of political, policy design, and implementation issues.

16:300:647 ***Historical Research in Educational Policy (3)***
Introduces historical inquiry in education. Students explore U.S. historiography and the influence social science has had on historical research in general and on education in particular. Students gain experience in framing historical questions (or problems) of their choosing and develop responses.

16:300:650 ***Evaluating Teaching (3)***
Evaluating teaching quality is a cornerstone of current educational reform efforts. There are multiple motivations for improved evaluation practices, ranging from professional development to making decisions about employment and compensation. Over the last two decades, new models of evaluation have been introduced that include value-added modeling based on student test scores, classroom observations, student perception surveys, teacher portfolios, classroom assignments, instructional logs, and new measures of teacher knowledge. This course explores the policy context, methods, and research around the evaluation of teaching quality and studies the assumptions, values, promises, and challenges of using different methods to make inferences about the quality of teaching and the effectiveness of particular teachers. Also examines current policy initiatives (e.g., Race to the Top) and implementations at state and district levels that are designed to improve teacher evaluation systems. The course provides direct experience with a number of evaluation tools in order to better understand the nature of these tools, the insights they can provide about teaching, and the challenges to using them effectively.

16:300:651 ***Validity and Assessment (3)***
Assessment in education is ubiquitous and is increasingly consequential for decisions about students, teachers, administrators, and schools--including higher education. Researchers frequently use assessments to obtain measures relevant to their particular studies. Validity provides a conceptual framework for how to consider the quality of inferences drawn from assessments. Users of assessments can get overwhelmed with all of the technical processes and information associated with tests, but these technical aspects are only tools that help address these fundamental questions of validity. This course explores validity at a conceptual level and does not require strong quantitative skills. It explores evolving conceptions of validity and focuses on aspects of validity including fairness, test design and development, reliability, scoring and interpretation, and consequences of testing. Also examines applications of validity to current assessment initiatives in the educational landscape.

16:300:661 ***Seminar in Mathematics Education Research (3)***
Students engage in a research project that involves formulation of one or more research question(s); discussion and analysis of their theoretical perspective; collection of data. Applicable as a research course.
Prerequisite: Practicum or permission of instructor.

16:300:665 ***Topics in Mathematics Education (3)***
Selected topics in the learning and teaching of mathematics. Presupposes strong knowledge of content domain.
Prerequisite: Permission of instructor.

16:300:681 ***Qualitative Analysis and Ranking Techniques (3)***
Systematic study of chi-square techniques for analyzing educational data. Distribution-free rank tests for independent and dependent samples, confidence intervals, and measures of association.
Prerequisite: 16:300:511 or 16:960:532 or 15:291:532.

16:300:683 ***Applied Multivariate Analysis (3)***
Survey of multivariate statistical procedures commonly encountered in educational research. Matrix algebra, multivariate analysis of variance, discriminant analysis, exploratory factor analysis, canonical correlations, and log-linear models.
Prerequisite: Permission of instructor.

16:300:684 ***Advanced Psychometric Theory II (3)***
In-depth analysis of classical measurement theory, including variance decomposition into true and error components; development of the Spearman-Brown formula and Cronbach's alpha; reliability and generalizability theory; test design and equating; and comparison of multiple-choice items and performance assessments. May include basic derivations for factor analysis and item response theory.
Prerequisite: Permission of instructor.

16:300:685 ***Causal Modeling (3)***
Introduction to structural equation modeling, including latent variables; confirmatory factor analysis; diagnosing model fit and testing alternative models; and multisample designs. Multilevel (or hierarchical) linear models as related to multisample designs (such as identifying hierarchical structures, random compared with fixed effects); variance components; and designs with repeated measurements.
Prerequisite: Permission of instructor.

16:300:687 ***Item Response Theory (3)***
Introduction to item response theory (IRT), which encompasses a group of probabilistic measurement models widely used in standardized testing programs. Foundations and assumptions underlying IRT, comparison of various IRT models, application of IRT to practical testing situations, and implementation of IRT using the BILOG computer program.
Prerequisites: 16:300:511 or 16:960:532 or 15:291:532, and permission of instructor.

16:300:691 ***Cognitive and Motivational Learning Strategies (3)***
Overview of theory and research related to cognitive and motivational learning strategies. Includes the theoretical basis for learning and motivational strategies, assessment of strategies, problems related to learning from different sources of information, and individual differences in strategy use.

16:300:695 ***Topics in Educational Psychology (3)***
Provides advanced doctoral students an opportunity for advanced study of a topic of personal interest within selected areas of psychology or educational statistics and measurement.
Prerequisite: Permission of instructor.

16:300:696 ***Topics in Educational Psychology (3)***
Provides advanced doctoral students an opportunity for advanced study of a topic of personal interest within selected areas of psychology or educational statistics and measurement.
Prerequisite: Permission of instructor.

16:300:699 ***Independent Study in Education (3)***

16:300:701,702 ***Research in Education (BA,BA)***

16:300:800 ***Matriculation Continued (0)***

16:300:811 ***Graduate Fellowship (0)***

16:300:866 ***Graduate Assistantship (BA)***

16:300:867 ***Part-time Graduate Assistantship (3)***

16:300:877 ***Teaching Assistantship (BA)***

16:300:878 ***Part-time Teaching Assistantship (3)***

Ph.D. in Higher Education Courses (16:507) (GSE)

PH.D. IN HIGHER EDUCATION COURSES (16:507)

For the most recent, and often more detailed, course descriptions from most recent course offerings, please see the Graduate School of Education website.

16:507:500 ***The Study and Practice of Higher Education (3)***
Overview of higher education as a field of study and a profession.

16:507:510 ***Higher Education Structures and Governance (3)***
Reviews the roles of individuals, constituencies, and organizations in governing public and private colleges and universities. Analyzes roles of faculty, students, staff, administrators, governing boards, and governmental entities.

16:507:515 ***Diversity and Multiculturalism in Higher Education (3)***
Examination of theoretical and empirical literature on race, class, and gender in higher education structures, policies, and practices. Issues include admissions, affirmative action policies, sexual harassment, higher education access, financial aid, and minority-serving college and universities.

16:507:520 ***Higher Education Law (3)***
A survey of significant laws, court opinions, and regulations affecting public and private colleges and universities. Includes student and faculty contract and constitutional rights, federal regulations of research, federal student aid, and intellectual property.

16:507:521 ***Academic Personnel and the Law (3)***
Focuses on legal issues related to the employment of faculty and staff. Addresses the search and hiring process, mentoring and evaluation, promotion and tenure decision-making, post-tenure review, and dismissal for cause. Also addresses academic freedom, research misconduct, and professional ethics.

16:507:525 ***Economics and Finance of Higher Education (3)***
Economic and financial concepts, models of higher education. Analysis of structure and development, public and private sectors. Relation to access and accessibility. Disruptive technological change is a focus.

16:507:530 ***Higher Education Leadership (3)***
An introduction to leadership theory, research, and practices in higher education settings with an emphasis on the distinctive organizational characteristics of colleges and universities.

16:507:535 ***History of Higher Education in the United States (3)***
This course examines competing historical explanations for the rise and evolution of higher learning in the United States, from colonial times to present with particular attention to social class, religion, gender, and race.

16:507:550 ***Field Experience in Higher Education (1-3)***
A guided, project-oriented practicum experience supervised by a faculty member and the site supervisor plus a seminar class focused on experiential learning with research practice or research policy focuses.
Prerequisite: Permission of major adviser.

16:507:611,612,613,614 ***Special Topics in Higher Education (BA,BA,BA,BA)***
Focused study of selected issues, trends, or policies pertinent to higher education. Topics and instructors will vary from one academic semester to another.

16:507:630 ***The Research University in the United States (3)***
Examines many of the most important issues and opportunities facing research universities in the United States today. Topics include the universities' origins, purposes, and distinguishing characteristics; systems of governance and finance; and undergraduate, graduate, and professional education.

16:507:635 ***International and Comparative Higher Education (3)***
Models, purposes, and contexts of higher education in non-U.S countries and regions. Inter-institutional partnerships and transnational collaborations; international scholars and students.

16:507:640 ***Postsecondary Learning and Teaching (3)***
Pedagogical models, adult learning theories, and assessment of student learning. Students will compare and critique relevant paradigms and models and explore implications of contemporary research and trends for colleges and universities.

16:507:645 ***The Community College Sector (3)***
American community colleges' origins and evolution; models of governance; multiple institutional missions and stakeholders; and diverse student goals and needs. Contemporary challenges and opportunities.

16:507:695 ***Research and Dissertation Seminar (3)***
Preparation of dissertation proposal and structured exploration of funding sources for dissertation study and subsequent research. Students must have completed the majority of all coursework and, at a minimum, be in the process of qualifying for candidacy.
Prerequisites: Instructor approval and permission of major adviser required.

16:507:701,702 ***Research in Higher Education (BA,BA)***
Dissertation study.

16:507:811 ***Graduate Fellowship (0)***

Graduate GSE Courses (15) (GSE)

GRADUATE GSE COURSES (15)

Educational Administration and Supervision (230)

Adult and Continuing Education (233)

College Student Affairs (245)

Learning and Teaching-General Electives (250)

Early Childhood/Elementary Education (251)

English Literacy/Language Arts (252)

Language Education (253)

Mathematics Education (254)

Nondepartmental Graduate Courses in Education (255)

Science Education (256)

Social Studies Education (257)

Teacher Leadership (267)

Educational Psychology (290)

Educational Statistics, Measurement, and Evaluation (291)

Special Education (293)

Gifted Education (294)

Learning, Cognition, and Development (295)

Counseling Psychology and School Counseling (297)

Reading (299)

Social and Philosophical Foundations of Education (310)

Undergraduate GSE Courses (05) (GSE)

UNDERGRADUATE GSE COURSES (300)

For most recent, and often more detailed, course descriptions from most recent course offerings, please go to the syllabi site.

05:300:200 ***Introduction to Education (3)***
This course focuses on critical issues in U.S. education and aims to inspire students to enter into the teaching profession with the goal of promoting social justice, human dignity and global awareness. The course introduces students to issues in educational equity and explores the ways in which globalization, race, ethnicity, immigration status, disability, religious identity, and gender and sexuality impact school settings. Students will become familiar

with important concepts and approaches that will start them on their journey of acquiring the many skills and attitudes that an excellent teacher possesses.
Prerequisite for admission to the five-year teacher education program. Corequisite: 05:300:201.

05:300:201 ***Introduction to Education Field-Based Lab - Clinical Experience (.5)***
This clinical course is designed around analysis of video material from actual classroom teaching or facilitated experiences in urban schools so that students can systematically and carefully begin to understand the unique challenges and opportunities of schools and communities.
Corequisite: 05:300:200.

05:300:202 ***Introduction to How People Learn (3)***
Education occurs not just in schools but in nearly every setting where people live and work--workplaces, organizations, communities, families, museums, and so on. Nearly all professions involve educating others. This course helps students learn to be effective educators in out-of-school contexts. It examines processes of effective learning and motivation in a variety of learning settings, such as learning through games, learning in after-school programs, and learning through cultural apprenticeships. It also examines connections of learning with issues of equity, diversity, and culture within and across these settings.

05:300:303 ***Why we Play: Play in Children, Adults, and Animals (3)***
Play is a part of life among all social animals as well as among humans. Play begins in childhood, but transforms and has critical import for later life. Students will learn about how play has been considered from ancient times to the present and be able to interpret play in their own lives and lives of those around them. Activities include observation of children playing, playing yourself, and written assignments. This course offers the opportunity for students to determine their personal perspective on the question of play.

05:300:304 ***Arts Across the Curriculum (3)***
Focuses on drama, movement, visual art, music, and creative writing, individually and together, as well as imagination and creativity. Students in this course will experience the processes of these arts themselves and create products/presentations using various forms. They will learn how to stimulate arts processes and lead arts activities with young children, how to talk about these activities with children, and how to evaluate and assess these activities.

05:300:305 ***Creativity and Imagination in Professional Settings (3)***
Students will become acquainted with the fields of creativity and mental imagery through online and live lectures, readings, and leading and/or participating in a variety of activities designed to stimulate personal creativity. Students will respond to almost weekly probes and submit journal entries stimulated by those probes. Students will develop two different presentations that demonstrate their personal take on creativity. Students will work in groups to create two concluding pieces (a creativity box and an original text segment) that utilize the creative and imaginative skills and abilities of all participants in that group.

05:300:306 ***Educational Psychology: Principles of Classroom Learning (3)***
Surveys areas of psychology most relevant to education. How children think, learn, and remember; influence of motivation; and principles of measurement.
Prerequisite for admission to the teacher education program.

05:300:307 ***Human Development: Birth through the Transition to Adulthood (3)***
Introductory course in human development providing an overview of learning and developmental processes from birth through the transition to adulthood. Development during infancy, early childhood, middle childhood, adolescence, and early adulthood is considered. Changes in physical, neurological, social, cognitive, and emotional functioning during these periods are examined through the lenses of sociocultural, developmental, and learning sciences.

05:300:308 ***Introduction to Motivation (3)***
This course provides an overview of motivation in formal and informal educational settings from a psychological perspective. Most theories and research on motivation are framed around two major components of one's motivation: Can I do this task? Why do I want to do this task? We will address these questions through the theoretical lenses of major theories of motivation including expectancy value theory, attribution theory, achievement goal theory, self-determination theory, theories of personal and situational interest, and engagement. We will examine how and why one's responses to these questions shape their engagement and learning.

05:300:313 ***Tutoring: Theory and Practice (3)***
Tutoring occurs not just in schools, but also in a variety of out-of-school contexts--standardized test preparation, museum exhibits, and so on. Tutors are typically more experienced peers, teachers, or anyone with expertise in a particular subject matter. The most effective tutors not only have expertise in their subject area, but also have a thorough understanding of the strategies needed to monitor and produce meaningful learning in both one-on-one and group settings. In this course students learn to be effective tutors in K-12 settings, both inside and outside of the classroom. It also examines connections of learning and tutoring with issues of equity, diversity, and culture within and across these settings. Students in this course will engage in frequent role-playing activities to apply what they learn about effective tutoring.

05:300:314 ***Presentation of Self in Professional Settings (3)***
Focuses on the theoretical foundations and the practical development of each student's personal presentation. Covers both theory and practice so that, by the end of the course, each student will be ready for graduate school, to be interviewed for a job, to interact with others in a new work situation, or to speak in front of a group.

05:300:315 ***Interactive Training for Workplace and Community Settings (3)***
Focuses on how to use adult learning theory and interactive face-to-face and web-based strategies to design and implement training in a variety of settings including workplaces, community-based organizations, and schools.

05:300:317 ***The Teacher in Film: Analyzing What Hollywood Has Been Telling Us about Teaching (3)***
Focuses on films in which a teacher is the central character. Students will study these films as a cinematic art form, as positive inspirational role models for students considering a teaching career, and as unrealistic examples that shape the public's view concerning teaching.

05:300:318 ***The Teacher (and Other Professionals) as Performer: The Presentation of Self (3)***
Focuses on the techniques and skills used in the theater by actors, directors, dancers, playwrights, and designers, all modified and transformed by each student to create a personal approach for dealing with various educational interactive settings. The course is broken into three segments. The first is primarily a skill-based segment during which the student participates in technical and improvisational work. The second section focuses on lecture and discussion of key theoretical ideas. The third focuses on each student's personal presentation of self within an educational setting.

05:300:319 ***Community-Based Learning in Urban Environments (3)***
This course is designed to assist students in learning from local urban community centers, as well as from the families and individuals who use these services, about how multiple organizations serve an educative function. Through readings and practical hands-on, community-based experiences, students will come to understand both the broad educative needs as well as the enormous resources that exist within the communities and families of urban and other diverse settings. At the same time, students will gain practical skills for working with and learning from families and individuals in community-based settings.

05:300:320 ***Introduction to Gifted Education (3)***
This introductory course in gifted education focuses on the cognitive and psychosocial development of gifted individuals over a lifetime. Emphasis will be placed on exploring the characteristics of giftedness and the influences that support or hinder the development of potential talent. The relationship between creativity, intelligence, and giftedness will be explored, along with implications for educational settings. The course carries 15 field hours as a practicum assignment.

05:300:322 ***The Social and Emotional Needs of Gifted Learners (3)***
This course is designed to provide a strong background for students related to working with gifted children to promote positive affective development. It will feature core affective characteristics and needs, and demonstrate the connections to students' cognitive make-up. Emphasis will be on affective approaches to use in the classroom as well as more formalized programs and services in guidance and counseling deemed essential for their talent development. Course readings, discussions, and assignments focus on special issues and concerns for addressing the social and emotional needs of this population of learners including asynchronous development, perfectionism, risk avoidance, fear of failure, and over-excitabilities. Special emphasis will be placed on special populations of gifted learners--twice exceptional learners, students from poverty and minority groups, and underachievers.
Prerequisite: 05:300:320.

05:300:324 ***Community-Based Learning: Theory and Practice (3)***
Children and teens learn a great deal from community-based programs that take place outside of school. These programs contribute to the development of the whole child and are an important part of a healthy, balanced life. This course helps students learn about development from early childhood through adolescence in order to understand how to meet the needs of youth in out-of-school learning environments. It examines ways to develop youth's potential by developing positive relationships with youngsters within community-based programs. Students will better understand issues of equity, diversity, and culture as they pertain to community-based learning.

05:300:325 ***Games and Education: Game-Based Learning (3)***
Everyone plays games. They are pervasive in our society. Whether a teenage boy playing PUBG or an adult woman playing Scrabble on her phone at midnight, over 164 million adults and children play video games in the United States. Games are everywhere but are still somewhat misunderstood. For instance, a gamer is more likely to be a woman over 30 than a boy under 17. Also, despite some of the ways that video games are portrayed in the media, almost three quarters of parents believe that video games can be used for education. Can we really learn by using video games? In this course we explore the world of games, including video games, as it relates to education. Can games be used for educational purposes? What is hype and what is the reality? Are modern video games too violent to be used as teaching tools? What are some of the ideas and theory that underlie why games work and why they may not? This course will provide the student with an overview and history of the nexus of gaming and education, dig into some of the psychological and learning science ideas related to these endeavors and then, using what they have learned, students will design and create a game of their own.

05:300:326 ***Introduction to Teaching with Digital Tools (3)***
This online course available to all graduate students at GSE was developed based on the philosophy that knowledge is socially constructed and that students and teachers learn best when learning by doing. Students will have various opportunities to engage in both individual and collaborative, project-based activities that emphasize learning through inquiry. They will explore theories of learning and how they inform the effective uses of technology in K-12 environments. Additionally, students will investigate what the latest research has to say about the integration of technology in K-12 classrooms, with emphasis being placed on the types of 21st-century skills that are required to be successful in today's digital age society. By engaging students in a variety of project-based activities throughout the semester, this course will introduce them to the various ways that new technologies are challenging traditional ways of communicating and learning. Students will be introduced to various online communication and collaboration tools while exploring how these new technologies are changing the teaching landscape. The course will also introduce students to the potential challenges and benefits that arise from these changes.

05:300:327 ***Web-Based Multimedia Design (3)***
Introduces individuals to various online, multimedia tools while exploring how new technologies are changing the educational landscape. The course informs individuals on how to use design principles to analyze, design, develop, implement, and evaluate multimedia projects. Additionally, it introduces ways to integrate current and developing web-based technologies into various educational environments.

05:300:328 ***Developing the Digital eLearning Environment (3)***
Provides an in-depth overview of both theory and practice related to online distance education. The principles identified and the issues studied in the course are applicable across a variety of settings, including but not limited to: K-12 classrooms, universities, community colleges, business/industry, and health care. Also examines the theoretical framework, historical development, pedagogical issues, and practical applications of both online and hybrid eLearning education.
Prerequisite: 05:300:326 or by instructor approval

05:300:335 ***Informal Science Education (3)***
This course focuses on the teaching and learning of science in out-of-school contexts. These contexts are widely referred to as "informal learning" contexts and include: zoos, aquariums, science centers, natural history museums, docent-led walks/tours, after-school programs, and eco-enviro tours. As part of this course, we will read and discuss literature on informal science education (ISE). Learning theory in this area draws heavily from sociocultural perspectives on knowing and learning, and we will discuss its influence, along with cognitive and educational psychology, on the teaching and learning of science in out-of-school contexts.

05:300:336 ***Climate Change: Course for Educators (3)***
Explores the science of climate change. Students will learn how the climate system works; what factors cause climate to change across different time scales and how those factors interact; how climate has changed in the past; how scientists use models, observations, and theory to make predictions about future climate; and the possible consequences of climate change for our planet. The course explores evidence for changes in ocean temperature, sea level, and acidity due to global warming. Students will learn how climate change today is different from past climate cycles and how satellites and other technologies are revealing the global signals of a changing climate. Finally, the course looks at the connection between human activity and the current warming trend and considers some of the potential social, economic, and environmental consequences of climate change. It is intended for educators and those who are interested in learning and teaching in this area.

05:300:337 ***Space, Time, and Motion: Course for Educators (3)***
Throughout history, humans have grappled with questions about the origin, workings, and behavior of the universe. This seminar begins with a quick tour of discovery and exploration in physics, from the ancient Greek philosophers on to Galileo Galilei, Isaac Newton, and Albert Einstein. Einstein's work then serves as the departure point for a detailed look at the properties of motion, time, space, matter, and energy. It is intended for educators and those who are interested in learning and teaching in this area.
Prerequisite: Students should have taken an introductory physics course.

05:300:338 ***The Solar System: Course for Educators (3)***
This course provides an overview of what we know about the solar system: how it began and evolved, its components and their properties, and how these elements interact as a system. However, much of our knowledge remains incomplete, and so unanswered questions and mysteries figure prominently in the story. This course addresses our scientific understanding of the solar system, how we know what we know, and many hotly debated questions at the cutting-edge of scientific research. It is intended for educators and those who are interested in learning and teaching in this area.

05:300:339 ***Earth Systems: Course for Educators (3)***
Though the geologic record is incredibly ancient, it has only been studied intensely since the end of the 19th century. Since then, research in fields such as plate tectonics and climate change, and exploration of the deep sea floor and the inner Earth have vastly increased our understanding of geological processes. This course delves into the five questions listed below in order to understand how our dynamic planet evolved and what processes continue to shape it. In the process, learners will get to know the Museum of Natural History's Hall of Planet Earth, explore geologic time, and gain an understanding of how scientists study vast Earth systems. It is intended for educators and those who are interested in learning and teaching in this area. 1. How do geologists "read" the rocks? 2. How has the Earth evolved? 3. What causes climate and climate change? 4. Why are there ocean basins, mountains, and continents? 5. Why is the Earth habitable?

05:300:341 ***High School Mathematics Content: Teaching and Assessment (3)***
In-depth study and concentration of some key ideas in the high school mathematics curriculum. Viewing of mathematics in terms of the ideas built up in the minds of students.
Prerequisites: 01:198:111 or equivalent; 01:640:250,251.

05:300:342 ***Supervised Undergraduate Tutoring in Mathematics (3)***
Develops teaching strategies, an interactive style, and an approach to high school mathematics content in a one-on-one tutorial or small group setting. Students work with other undergraduates in lower-level, E-credit mathematics courses.
Prerequisites: 01:640:250,251.

05:300:350 ***Education and Computers (3)***
Establishes a foundation for using the computer and technology in a variety of educational settings across all subject areas. The course is hands-on in nature, with focus on current trends. Additionally, learners can expect to discuss theory, practice, and social/philosophical issues related to the use of computers in education. Some familiarity with computers is recommended; no prior computer skills are required.

05:300:361 ***Science: Knowledge and Literacy (3)***
Examines the emerging role of science education in society. Special attention given to the influence of professional societies. Places current trends in science education in a historical perspective that reflects the development of science in the United States.
Prerequisite: Science course at the 200 level or above.

05:300:363 ***Public School Policy and Reform (3)***
This course is designed as an elective for upper-level undergraduate students interested in understanding policy and reform efforts related to elementary and secondary education in the United States. The course is built around readings of very recent books on education policy topics. These topics range from racial residential segregation and the government policies that codified and reinforced that segregation, to modern education policies that further exacerbate racial inequality, the financing and economics of elementary and secondary education, issues with the measurement of the quality of our education systems, and the politics of teaching and the teacher workforce over time.

05:300:364 ***History of American Education (3)***
A historical survey of American education from the colonial period to the present. Topics considered will include the following: 1) colonial American education; 2) the origins of common schools; 3) the development of a public school system; and 4) 20th- and 21st-century educational reform.
Note: This course is cross-listed with the School of Arts and Sciences Department of History under 01:512:311.

05:300:365 ***Contemporary Issues in Education (3)***
A critical examination of contemporary issues in educational theory, policy, and practice.

05:300:367 ***Introduction to Hip Hop Education (3)***
This course draws on readings in Hip Hop studies and critical educational studies to explore the role of Hip Hop music, culture, and community in the lives of youth and in the development of critical, culturally sustaining approaches to teaching and youth development in K-12 classrooms and in outside of school settings. In the class we investigate the history and evolution of Hip Hop as it pertains to youth popular culture, community-building, and critical approaches to teaching and learning for social justice in schools. This is a seminar course designed to engage students in classroom dialogue and critical thinking about the present and future of young people's experiences in schools, communities, and popular culture.

05:300:369 ***Civic Education for a Diverse Democracy (3)***
In this course, we will use research, theory, and experiential activities to explore young peoples¿ experiences of citizenship; the historical and contemporary goals of civic education; the promise, conflicts and challenges of education for democratic citizenship; and the role of the social studies in these concerns. We will learn about different approaches to education for active civic learning and engagement, becoming familiar and experimenting with a variety of exciting pedagogical practices, including discussion, inquiry and civic action research.

05:300:371 ***Foundations of the Resident Assistant Experience I (1.5)***
This course has been designed to assist in the development of a more comprehensive understanding of the theoretical and practical knowledge needed for the Resident Assistant (RA) position at Rutgers University. The learning experience will provide an understanding of student and community development, leadership, communication, and diversity theories. Through exposure to theories, experiential learning situations, and the use of critical thinking and reflective analysis, participants will develop the background and knowledge that will allow them to conceptually understand their new leadership role.

05:300:372 ***Foundations of the Resident Assistant Experience II (1.5)***
This course has been designed to assist in the development of a more comprehensive understanding of the theoretical and practical knowledge needed for the Resident Assistant (RA) position at Rutgers University. The learning experience will provide an understanding of the theories and their practical implementation processes for peer counseling/advising; behavioral and mental health issues; conflict mediation; ethical and moral development; and group development. Through exposure to theories, experiential learning situations, and the use of critical thinking and using their current experiences in the RA position, participants will develop the knowledge to create a richer, more comprehensive experience in the RA position and subsequently enhancing the experience for the RA's students.

05:300:383 ***Introduction to Special Education (3)***
Overview of the diverse physical, psychological, and social disabilities of special education children.

05:300:385 ***Teaching English Language Learners (3)***
This introductory course provides preservice teachers and current practitioners with an understanding of how to teach English language learners or emerging bilinguals. Undergraduate students will be provided with the foundations of teaching English language learners and will be guided in constructing successful knowledge, skills, and dispositions for teaching students who are learning English.

05:300:386 ***Language Learning and Community Engagement in Argentina (3)***
The main goal of this course is to provide students with an understanding of modern Argentinian culture and society in all its complexity; from national heritage to contemporary social problems, and the role language and education play in this society. The course entails service-learning, and as such students will participate in teaching activities in La Paz elementary and/or secondary school as scheduled in the syllabus. Students will also acquire and improve Spanish linguistic and communicative skills through experiential learning opportunities in the Rosario community. Students will be immersed in Spanish-speaking contexts through a combination of community engagement and coursework. Family stays are also a vital component, providing students with a personal perspective and knowledge of Spanish, Rosario family lifestyles, and Argentine culture.

05:300:401 ***Individual and Cultural Diversity in the Classroom (3)***
Focuses on the range of student diversity in contemporary classrooms, including cultural, linguistic, and academic differences. Emphasizes strategies to enhance academic success, promote interaction, and facilitate the inclusion of diverse students in the regular school setting.
Prerequisite: 05:300:200.

05:300:402 ***Special Topics in Education (BA)***
Seminar on selected topics of current interest. Topics differ each semester. Consult instructor for description of topic under study.

05:300:403 ***Independent Study in Education (BA)***
Independent project in education to be carried out in consultation with appropriate faculty. Arrangements for a project supervisor must be made prior to registering for this course.

05:300:406 ***Community-Based Language Learning (3)***
The Community-Based English Language Learning course is required for students who are new participants in the Conversation Tree: Community-Based Language Partnerships (formerly the SALSA Program). The course provides a curriculum-based service-learning experience built upon a community-identified need for English language

instruction and aligns with the university's mission of contributing to the cultural and social well-being of the community. Topics include demographic trends in the United States and New Jersey; an introduction to second-language learning theory and practice; and the meanings of civic engagement, community, and citizenship in a multicultural society. The course provides opportunities to work with adult English language learners at a community center and to discuss these experiences, connecting practice to scholarly research.
Students must be admitted via an application process.

05:300:407 ***Community-Based Language Learning Leadership (1-3)***
The Community-Based English Language Learning Leadership course is required for returning Conversation Tree students who desire to take on a leadership role in the Conversation Café. The course provides a curriculum-based service-learning experience built upon a community-identified need for English language instruction and aligns with the university's mission of contributing to the cultural and social well-being of the community. Topics focus on facilitation, session planning, leadership, communication, and troubleshooting for the Conversation Cafés. The course provides opportunities to act in a leadership capacity with adult English language learners at a community center hosting a Conversation Café and to discuss these experiences, connecting practice to scholarly research.
Prerequisites: For returning Conversation Tree students only; students must have taken CBLL (05:300:406) as a prerequisite.

05:300:408 ***Community-Based Language Learning Internship (1-3)***
The Community-Based Language Learning Internship is for language education students or students returning to the Conversation Tree: Community-Based Language Partnerships (formerly the SALSA program). The course provides a curriculum-based service-learning experience built upon a community-identified need for English language instruction and aligns with the university's mission of contributing to the cultural and social well-being of the community. In this internship, students continue to serve as an English conversation facilitator or team leader at community partner sites alongside students enrolled in the Community-Based Language Learning (CBLL) and CBLL leadership courses. Students will continue to develop knowledge and skills to foster the language development of adult English language learners, as well as skills related to working together as a team (collaboration, communication, flexibility, etc.).
Prerequisite: Students must have taken CBLL (05:300:406) or Principles of Second and Foreign Language Acquisition (05:300:430 or 15:253:520:80).

05:300:409 ***Children's Literature in the Early Childhood and Elementary School (3)***
Children's literature is studied based on genre and includes author and illustrator studies. Literature is connected to content area teaching and extended literary experiences to enhance literacy development.

05:300:410 ***Learning and Development in a Social Context: Preschool and Primary Years (3)***
Advanced course in child development for prospective teachers with a focus on learning and development during the preschool, kindergarten, and primary years. Children's social and emotional development, as well as emerging skills in language, representation, and problem solving, is examined from a cognitive developmental-ecological framework. Students will integrate theory and research with observations of children in classroom and community contexts.

05:300:412 ***Learning and Teaching in the Early Childhood Classroom (3)***
Addresses teaching strategies and curricula appropriate for the young child aged 3 to 8. Emphasizes the role of play in learning and development and instructional strategies to foster cognitive, social, and emotional development. Curriculum planning around integrated, thematically related experiences explored.
Prerequisite: Admission to the teacher education program.

05:300:413 ***Practicum in Early Childhood/Elementary Education I (1.5)***
Fieldwork in a local elementary school to observe and participate as a teaching assistant; one full day per week for nine weeks in a prekindergarten, kindergarten, or first- through third-grade classroom.
Prerequisite: Admission to the teacher education program. Can be taken before or after 05:300:414. Coordinated with 05:300:412 and 494.

05:300:414 ***Practicum in Early Childhood/Elementary Education II (1.5)***
Fieldwork in a local elementary school to observe and participate as a teaching assistant; one full day per week for nine weeks in a fourth- through eighth-grade classroom.
Prerequisite: Admission to the teacher education program. Can be taken before or after 05:300:413. Coordinated with 05:300:441, 461, 471, and 495.

05:300:420 ***Inquiry-Based Teaching, Learning, and Assessment (3)***
Students learn how teachers use students' experiences, interests, and ways of learning to plan responsive curricula. Through structured experiences, students learn that an inquiry approach to teaching and learning can teach specific content while helping children to learn how to learn in more formal contexts. Students learn how to integrate subject matter in a student-centered environment and practice methods of inquiry and sources of knowledge that can be used with elementary and middle school students.
Prerequisite: Admission to special education and elementary education initial teacher licensure programs.

05:300:421 ***Language and Linguistics: Exploring Language, Culture, and Power (3)***
Examines sociocultural theories of language and considers the critique they offer of traditional school grammar. Explores the educational and political implications of teaching traditional school grammar in light of these critiques.

05:300:422 ***Teaching Literacy: Readers, Texts, and Assessments (3)***
Examines a variety of theories about what literary reading is and why it should be taught. Develop strategies for introducing, sequencing, and discussing literary texts, as well as for integrating the study of literature into the other language arts. Field experience required.

05:300:423 ***Teaching Writing: Social and Cognitive Dimensions (3)***
Examines a variety of perspectives on the nature of the writing process. Considers research and theory on how teachers should teach and respond to writing. Field experience required.***Prerequisite: 05:300:421.***

05:300:424 ***Adolescent Literature (3)***
Designed to allow teacher candidates the opportunity to engage with a range of adolescent and young adult literature for middle and high school students. The course structure allows for a view of adolescents as multiliterate beings with rich and diverse cultural worlds and identities, and an exploration of how literature can be used to engage adolescents in meaningful learning. The course is intended to provide a space for students to think and talk about how their own personal connections with literature texts inform their evolving personal theory of and professional approach to literacy instruction.

05:300:430 ***Principles of Language Learning: Second and World Language Acquisition (3)***
Introductory course that examines the research and theory on first and second language acquisition related to children, teens, and adults in the United States and abroad.
Prerequisites: 05:300:200, admission to the teacher education program.

05:300:431 ***Introduction to World Language/Elementary Methods (3)***
Provides an introduction to the field of world language teaching and its methodology.
Prerequisite: Admission to language education programs.

05:300:432 ***World Language Secondary School Methods (3)***
Prepares world language teachers with pedagogical methods and techniques for secondary school language instruction.
Prerequisite: Admission to language education programs.

05:300:433 ***Language and Culture (3)***
Relationship of linguistic, cognitive, attitudinal, and behavioral patterns within each culture and how they affect cross-cultural communication and language education.
Prerequisites: 05:300:200, admission to the teacher education program.

05:300:434 ***Foundations of Language (3)***
Nature of language relevant to teachers involved with other languages and cultures. Topics include functional motivation of linguistic structure, linguistic sign, phonetics, phonemic and morphemic analysis, word semantics, and correctness.
Prerequisites: 05:300:200, admission to the teacher education program.

05:300:438 ***Methods for Teaching and Assessing World Language Learners (3)***
Provides an introduction to methods of teaching and assessing world language learners. Through course readings, seminar discussions, clinical experiences, and in-class presentations, students will develop expertise in two main areas: 1) methods for teaching students of world languages; and 2) research-based best practices and policies for working in a variety of programs. The class includes a clinical experience that includes observations in a school in New Jersey.
Prerequisite: Admission to language education programs.

05:300:439 ***Methods for Teaching and Assessing English Language Learners (3)***
Provides an introduction to methods of teaching and assessing English language learners. Through course readings, seminar discussions, clinical experiences, and in-class presentations, students will develop expertise in two main areas: 1) methods for teaching emergent bilinguals; and 2) research-based best practices and policies for working in a variety of programs. The class includes a clinical experience that includes observations in a school in New Jersey.
Prerequisite: Admission to language education initial licensure program.

05:300:441 ***Teaching Mathematics in the Elementary School (3)***
Concrete, manipulative approach to teaching mathematics concepts. Psychology of learning mathematics; the elementary curriculum; effective teaching techniques.
Prerequisite: 05:300:200. Open only to students who have been formally admitted to a teacher education program.

05:300:442 ***Mathematical Practices: Doing and Teaching Mathematics (3)***
Focuses on understanding one's own mathematical problem-solving processes and how such processes develop in mathematics learners of all ages.
Prerequisite: Admission to the teacher education program.

05:300:443 ***Methods of Teaching and Assessing Secondary Mathematics (3)***
Reviews the status of secondary mathematics teaching in the United States, the reform movement of the 1990s, and current thinking about issues of concern to practicing teachers. Encourages development of personal style and approach to teaching high school mathematics. Topics include instructional planning, assessment, individual differences, cultural and gender differences, and teaching styles.
Prerequisite: Admission to the teacher education program.

05:300:444 ***Practicum in Teaching Secondary School Mathematics (3)***
Gives prospective secondary mathematics teachers an opportunity to observe experienced teachers, serve as an aide, work with individuals and small groups, and teach several class sessions in a high school setting.
Prerequisite: Admission to the teacher education program. Corequisite: 05:300:443. Students spend two complete mornings in the school each week.

05:300:450 ***Urban Education I (1.5)***
Deepens students' understandings of the strengths and complexities of urban schools and communities, with the ultimate goal of developing the knowledge, skills, and dispositions essential to socially just teaching in urban and diverse settings. Through school- and community-based inquiry and critical reading students will become more knowledgeable about the contexts of students and the issues facing urban schools and communities.
Prerequisite: Admission to the teacher education program.

05:300:451 ***Urban Education II (1.5)***
Deepens students' understandings of the strengths and complexities of urban schools and communities, with the ultimate goal of developing the knowledge, skills, and dispositions essential to socially just teaching in urban and diverse settings. Students will use their clinical placements to practice and reflect on the skills, knowledge, and dispositions that are necessary for successful teaching for social justice in urban settings.
Prerequisite: Admission to the teacher education program.

05:300:452 ***Teaching Emerging Bilinguals in PK-12 Classrooms I (1.5)***
In this first module, our objective is to foster a set of dispositions toward emerging bilinguals, language, and power, and the social-political context of learning English in U.S. public schools. The goal is to introduce students to key terms and best practices that will be followed up on in content-specific settings in module II. By learning about emerging bilinguals, their experiences, and communities, students will consider their own positioning within and responsibility to language learners in their school communities.
Prerequisite: Admission to the teacher education program.

05:300:453 ***Teaching Emerging Bilinguals in PK-12 Classrooms II (1.5)***
In this second module, our objective is to continue to sensitize students to the linguistic and cognitive demands of academic English within their disciplines. By learning about emerging bilinguals, their experiences, and communities, students will be able to take a critical stance towards the discourse within their disciplines regarding stereotypes, the achievement gap, and language deficits. They will continue to develop a funds-of-knowledge tool kit to disrupt mainstream views of emerging bilinguals. Students will learn instructional strategies for affording

emerging bilinguals equitable access to the teaching and learning interactions and the unique social life of the classrooms they are working within.
Prerequisite: Admission to the teacher education program.

05:300:461 ***Science in PK and Elementary School: Learning and Assessment (3)***
Presents science as an integrated body of knowledge using investigative and inquiry techniques. Thematic or problem-based approach to science teaching.
Prerequisites: Admission to the teacher education program and completion of student's liberal arts college science requirement.

05:300:462 ***Demonstrations and Technology in Science Teaching (3)***
Creating science teaching support materials using resources available over the internet. For use in creating laboratory, demonstration, and related activities that would complement classroom practice. Involvement in the broad internet community of interest in science and science teaching.
Prerequisite: Admission to the teacher education program.

05:300:463 ***Comparative Education (3)***
This course will investigate a wide variety of social, cultural, economic, and political issues in schooling in an international context. Included will be a study of implications of education for pressing contemporary social issues in Africa, western and eastern Europe, Oceania, the Americas, and the Near and Far East. The goal will be to develop a critical understanding of the impact of globalization on education, as well as an understanding of the dominant and alternative paradigms of education and development, and how these translate into educational policy and practice in communities, schools, and classrooms across the globe.

05:300:464 ***Race and Education (3)***
This course explores relationships between race, education, and inequality, and examines these intersections with a global lens. We begin with a historical exploration of colonialism in the social construction of racial difference and racial hierarchies. We study how the institution of school was integral in the expansion of empire and nation building. The course examines schooling as a site entrenched in larger webs of racial stratification in efforts to understand the (re)production and contestation of inequalities. Finally, we study how education (more broadly defined) has been drawn upon towards racial justice and reimagining societies.

05:300:465 ***Sexuality, Gender, and the Politics of U.S. Public Schooling (3)***
As Americans became increasingly aware of differing sexualities and multiple genders, the public school site has become a venue for great battles over which understandings will be transmitted--and which will not. From early concerns over public schools creating "sissified boys" to the contemporary debates over sexuality education, teen pregnancy, and gay-straight alliances, the public school site has been an arena of much public concern and anxiety around issues of sexuality and gender.

05:300:466 ***Urban Schools: Policy and Practice (3)***
This is an introduction to urban education. The course is designed to deepen your understanding of the complexity and challenge of providing quality education in urban schools. It also aims to inspire you with examples of innovative and successful education programs in urban settings. We will examine urban education from a variety of disciplines and perspectives. You will conduct research of urban communities and schools. The class is centered around the following key questions: How do urban contexts shape urban schools? What is the role of schooling both in producing and reducing economic inequality? How do youth develop as learners in urban settings? What practices push this development in a positive direction?

05:300:467 ***Global Education: 21st-Century Trends and Issues (3)***
Introduces students to critical global themes and issues shaping the design, delivery, and impact of educational policies and practices in the United States, as well as internationally. Students will analyze how rapidly evolving networks of global communication, patterns of world migration, trade and environmental change, efforts to manage regional and global conflicts, and movements to expand social justice and realize guarantees of human rights are changing both the content and processes used in diverse educational settings, including schools, workplaces, and other institutions. Competing (and often conflicting) conceptions of global citizenship will also be examined, along with their implications for what it means to be an educated person during the 21st century.

05:300:468 ***Migration, Globalization, and U.S. Education (3)***
Globalization and mass migration are reconfiguring the modern world and reshaping the contours of nation-states. This course focuses on the experiences of the youngest members of these global migration patterns--children and youth--and asks: What do these global flows mean for educating young people to be members of the multiple communities to which they belong? What is globalization and why is it leading to new patterns of migration? How do children and youth experience ruptures and continuities across contexts of migration? How do language policies affect young people's capacity to be educated in a new land? What does it mean to forge a sense of belonging and citizenship in a "glocalized" world, and how does this challenge our models of national citizenship? How are the processes by which young people are incorporated into their new country entwined with structures of race, class, and gender? Drawing on fiction, autobiography, and anthropological and sociological research this class will explore these questions from a variety of disciplinary perspectives.

05:300:469 ***Queer Issues in School (3)***
Introduces students to queer issues as they arise in and around U.S. public schools. Draws on multiple disciplines (e.g. history, sociology, law) to examine the intersections of queer issues and queer theory, the experiences of queer students and queer educators historically and at the present, educational laws and policies, curricula and pedagogies, intersectionality and queer diversities, and queer activism. Using course readings, class discussions and activities, and written reflections, students will learn to apply queer theory to begin uncovering queer erasure, homophobia, and heterosexism in schooling contexts. In addition, students will collaborate toward designing more socially just formations of U.S. public schooling vis-a-vis queer issues.

05:300:470 ***Human Rights and Education (3)***
Explores critical relationships between education in the United States and the core concepts, policies, and practices of international rights. Course topics include: the historic development of international human rights law and policies, the rights of children, historic and contemporary conflicts in the USA dealing with the right to public education, and the theory and practices related to building a human rights culture in school settings. Course readings, activities, and assessments are designed for application to any school setting and are not focused on a single subject field or certification program. Online conferences with experts in the field of human rights education will be implemented during the semester for course participants.
Prerequisite: Acceptance into Graduate School of Education graduate program.

05:300:471 ***Teaching Social Studies in Elementary School (3)***
Examines strategies and materials for teaching social studies in the elementary school. Focuses on a cluster of teaching models to engage children in the active pursuit of knowledge, skills, and values.
Prerequisite: Admission to the teacher education program.

05:300:472 ***Materials, Methods, and Assessment for Secondary Social Studies (3)***
Study of instructional practices, curricular trends, and teaching materials used in social studies.
Prerequisites: 05:300:200. Admission to the social studies teacher education program.

05:300:474 ***Integrated Curriculum with Young Children (3)***
Over the course of the semester, students will learn how early childhood teachers use children's experiences, interests, and ways of learning (e.g., play) to plan responsive curricula that also teaches specific content and helps children to learn how to learn in more formal contexts. To understand how teachers of young children integrate subject matter in a student-centered environment, this class will focus on methods of inquiry and sources of knowledge that can be used with young children.

05:300:480 ***Literacy for Students with Disabilities (3)***
Focuses on instructional practices in special education. Explores special education approaches to teaching literacy to students with disabilities and/or at-risk learners. Procedures covered are applicable to inclusive, as well as more restrictive settings, and address the needs of students from a broad array of cultural, linguistic, and economic backgrounds. This course is taken in conjunction with a field placement, where students apply specific procedures and strategies from class.
Prerequisite: Admission to the special education teacher education program.

05:300:481 ***Materials and Methods in Special Education (3)***
This course focuses on instructional practices in special education. Students will learn to plan instruction for students with disabilities. They will learn a variety of research-based instructional strategies for diverse learners. Students will learn to develop lesson plans for a variety of instructional settings and in collaboration with other professionals. Research-based practices will be used to plan instruction, implement instruction, and evaluate instructional effectiveness. This course is taken in conjunction with a field placement, where students apply specific procedures and strategies from class.
Prerequisites: 05:300:200 and 383.

05:300:488 ***Dance Clinical Practice Phase 2a (2)***
This Clinical Practice requires a minimum of 181 hours of classroom practice (two full days per week) in an assigned GSE clinical partnership school under the supervision of a fully credentialed cooperating teacher in the candidate's area of anticipated licensure.
Prerequisites: Admission to the teacher education program and successful completion of Clinical Experience Phase 1.

05:300:489 ***Dance Clinical Practice Phase 2b (2)***
This Clinical Practice requires a minimum of 181 hours of classroom practice (two full days per week) in an assigned GSE clinical partnership school under the supervision of a fully credentialed cooperating teacher in the candidate's area of anticipated licensure.
Prerequisites: Admission to the teacher education program and successful completion of Dance Clinical Experience Phase 2a.

05:300:494 ***Literacy Development in the Early Years (3)***
Focus on literacy skills for children from birth through third grade. Emphasis on emergent literacy strategies, language and vocabulary development, word study, comprehension, writing, and parent involvement. Children's literature is explored.
Prerequisites: 05:300:200, admission to the teacher education program.

05:300:495 ***Literacy Development in the Elementary and Middle School (3)***
Focus on literacy skills for grades 3-8. Emphasis on higher order comprehension skills, vocabulary development, content area reading, writing, and struggling readers. Upper elementary and adolescent literature is explored.
Prerequisites: 05:300:200, admission to the teacher education program.

05:300:498 ***Clinical Experience Phase 1 (.5)***
This clinical internship requires 50-60 hours of structured observation and guided participation in a GSE partnership school. Activities include: working with individual and small groups of students; participating in school and community activities geared toward youth development; analyzing and understanding the context of urban schools; observing and analyzing the experiences of students in urban schools including emerging bilinguals and students with special needs.
Prerequisite: Admission into initial licensure program.

05:300:499 ***Clinical Practice Phase 2 (4)***
This Clinical Practice requires a minimum of 181 hours of classroom practice (two full days per week) in an assigned GSE clinical partnership school under the supervision of a fully credentialed cooperating teacher in the candidate's area of anticipated licensure.
Prerequisites: Admission to the teacher education program and successful completion of Clinical Experience Phase 1.

Faculty, Administration, and Centers (GSE)

FACULTY, ADMINISTRATION, AND CENTERS

Key to Abbreviations

Educational Psychology Faculty

Educational Theory, Policy, and Administration Faculty

Learning and Teaching Faculty

Graduate Faculty

Higher Education Faculty

Administration

Selected Centers and Partnerships

Key to Abbreviations (GSE)

KEY TO ABBREVIATIONS

The following abbreviations are used in several of the faculty listings:

CTAAR Center for Teaching Advancement and Assessment Research

CESP Center for Effective School Practices

CMSI Center for Minority Serving Institutions

DIMACS Center for Discrete Mathematics and Theoretical Computer Science

EJBSPPP Edward J. Bloustein School of Planning and Public Policy

GSE Graduate School of Education

NIEER National Institute for Early Education Research

OIRAP Office of Institutional Research and Academic Planning

RWJMS Robert Wood Johnson Medical School

SAS School of Arts and Sciences

SAS-N School of Arts and Sciences-Newark

SC&I School of Communication and Information

SEBS School of Environmental and Biological Sciences

SGS School of Graduate Studies

SMLR School of Management and Labor Relations

Educational Psychology Faculty (GSE)

EDUCATIONAL PSYCHOLOGY FACULTY

Chair: Clark Chinn (732-932-7496; Email: clark.chinn@gse.rutgers.edu)

Distinguished Professors

Clark A. Chinn, Ph.D., Illinois (Urbana-Champaign)

Marybeth Gasman, Ph.D., Indiana

Professors

Janice Gobert, Ph.D., Toronto

Lorraine D. McCune, Ed.D., Rutgers

Ann O'Connell, Ed.D., Columbia (Teachers College)

Angela M. O'Donnell, Ph.D., Texas Christian

Saundra M. Tomlinson-Clarke, Ph.D., Florida State

Associate Professors

Nichole M. Garcia, Ph.D., California (Los Angeles)

Judith R. Harrison, Ph.D., Texas A&M

Ebelia Hernandez, Ph.D., Indiana (Bloomington)

Matthew J. Mayer, Ph.D., Maryland (College Park)

Dake Zhang, Ph.D., Purdue

Assistant Professor

Ian Levy, Ed.D., Columbia (Teachers College)

Emily Weiss, Ph.D., University of Pennsylvania

Assistant Professor of Professional Practice

Stephanie Brescia, Ph.D., Rutgers

Kathy Shoemaker, Ph.D., Montclair State

Instructor of Professional Practice

Leslie Calabrese, M.A., New Jersey City

Educational Theory, Policy, and Administration Faculty (GSE)

EDUCATIONAL THEORY, POLICY, AND ADMINISTRATION FACULTY

Chair: Melinda Mangin (848-932-0679; Email: ben.justice@gse.rutgers.edu)

Distinguished Professors

W. Steven Barnett, Ph.D., Michigan (Ann Arbor)

Benjamin Justice, Ph.D., Stanford

Professors

Melinda Mangin, Ph.D., Rutgers

Associate Professors

Tanja Carmel Sargent, Ph.D., Pennsylvania

Assistant Professor

Kevin Clay, Ph.D., Rutgers

Karishma Desai, Ed.D., Columbia (Teachers College)

Krystal Strong, Ph.D., Rutgers

Assistant Professor of Professional Practice

Gail Verona, Ed.D., Rutgers

Learning and Teaching Faculty (GSE)

LEARNING AND TEACHING FACULTY

Chair: Carrie Lobman (848-932-0809; Email: carrie.lobman@gse.rutgers.edu)

Distinguished Professors

Gerald A. Goldin, Ph.D., Princeton

Carolyn A. Maher, Ed.D., Rutgers

Lesley M. Morrow, Ph.D., Fordham

Sharon Ryan, Ed.D., Columbia (Teachers College)

Keith H. Weber, Ph.D., Carnegie Mellon

Professors

Daniel Battey, Ph.D., California (Los Angeles)

Alisa Belzer, Ph.D., Pennsylvania

Ravit Duncan, Ph.D., Northwestern

Mary Elizabeth Curran, Ph.D., Wisconsin (Madison)

Drew Gitomer, Ph.D., Pittsburgh

Juan Pablo Mejia-Ramos, Ph.D., Warwick (UK)

Associate Professors

Sarah Gallo, Ph.D., University of Pennsylvania

Nora Hyland, Ph.D., Illinois (Urbana-Champaign)

Lauren Kelly, Ph.D., Columbia (Teachers College)

Amy Lewis, Ed.D., Rutgers

Carrie Lobman, Ed.D., Columbia (Teachers College)

Cheryl A. McLean, Ph.D., Georgia

Nicole Mirra, Ph.D., California (Los Angeles)

Esther Ohito, Ed.D., Columbia (Teachers College)

Christelle Palpacuer-Lee, Ed.D., Rutgers

Helane Rosenberg, Ph.D., Florida State

Assistant Professor

Shanique J. Lee, Ph.D., North Carolina (Charlotte)

Robert Zisk, Ph.D., Rutgers

Assistant Professors of Practice

Tasha Austin, Ed.M., Rutgers

Michelle Macchia, Ed.D., Rutgers

Maqueda Randall-Weeks, Ed.D., Harvard

Graduate Faculty (GSE)

GRADUATE FACULTY

Directors of Graduate Program:
Ebelia Hernández (848-932-0818; Email: ebelia.hernandez@gse.rutgers.edu);
Tanja Sargent (848-932-0732; Email: tanja.sargent@gse.rutgers.edu);
Juan Pablo Mejia Ramos (848-932-0806, Email: pablo.mejia@gse.rutgers.edu)

Members of the Graduate Faculty

W. Steven Barnett, Board of Governors Professor of Educational Theory, Policy, and Administration, GSE; Ph.D., Michigan (Ann Arbor)
Economics of education; educational policy; evaluation

Dan Battey, Professor of Learning and Teaching, GSE; Ph.D., California (Los Angeles)
Professional development; elementary mathematics; equity; racialization

Alisa A. Belzer, Professor of Learning and Teaching, GSE; Ph.D., Pennsylvania
Adult literacy education; professional development; policy

Wanda J. Blanchett, Dean and Distinguished Professor, GSE; Ph.D., Pennsylvania State
Race and equity in education; special education; teacher education

Clark A. Chinn, Professor of Educational Psychology, GSE; Ph.D., Illinois (Urbana-Champaign)
Learning through inquiry; epistemic practices and epistemic cognition; argumentation and reasoning; collaborative learning; conceptual change

Mary E. Curran, Associate Dean for Local-Global Partnerships, Professor of Learning and Teaching, GSE; Ph.D., Wisconsin (Madison)
Language teacher education; community-engaged learning; global education

Karishma Desai, Assistant Professor of Educational Theory, Policy, and Administration, GSE; Ed.D., Teachers College, Columbia
Gender; anthropology of education; feminist theory; critical development studies; childhood and youth

Ravit Golan Duncan, Associate Professor of Learning and Teaching, GSE; Ph.D., Northwestern
Learning; curriculum design; teacher preparation in science education

Sarah Gallo, Associate Professor of Learning and Teaching, GSE; Ph.D., Pennsylvania
Anthropologist of education of bilingual and immigrant education

Nichole Garcia, Assistant Professor of Educational Psychology, GSE; Ph.D., California (Los Angeles)
Higher education; women of color; feminisms; critical race theory; Latinx communities

Marybeth Gasman, Samuel DeWitt Proctor Endowed Chair in Education and Distinguished Professor of Educational Psychology, GSE; Ph.D., Indiana (Bloomington)
History; Black colleges; philanthropy; leadership; race and equity

Drew Gitomer, Rose and Nicholas DeMarzo Chair in Education and Professor of Learning and Teaching, GSE; Ph.D., Pittsburgh
Measurement of teaching quality; teacher knowledge; educational policy; instructional artifacts; classroom artifacts

Martin Gliserman, Associate Professor of English, SAS; Ph.D., Indiana (Bloomington)
Psychoanalysis/literature (narrative); cognitive science; technology-based learning; intelligent tutoring systems for science; skill acquisition; performance assessment via log files; educational data mining

Gerald A. Goldin, Distinguished Professor of Learning and Teaching, GSE; Ph.D., Princeton
Mathematics education; theoretical physics

Judith R. Harrison, Assistant Professor of Educational Psychology, GSE; Ph.D., Texas A&M
Special education; services for youth with emotional and behavioral disorders

Ebelia Hernández, Associate Professor of Educational Psychology, GSE; Ph.D., Indiana (Bloomington)
Latinx college student experience; student development; critical methodologies

Nora E. Hyland, Associate Dean and Faculty Director of Teacher Education, GSE; Ph.D., Illinois (Urbana-Champaign)
Race, class, gender, and sexuality within the sociocultural context of schools; urban/social justice teacher education

Lee Jussim, Distinguished Professor of Psychology, SAS; Ph.D., Michigan (Ann Arbor)
Social perception; interpersonal expectations; stereotypes

Benjamin Justice, Professor of Educational Theory, Policy, and Administration, GSE; Ph.D., Stanford
Religion and public education; social and civic education; education in nation building

Lauren Leigh Kelly, Assistant Professor of Learning and Teaching, GSE; Ph.D., Teachers College, Columbia
Hip-hop literacies; critical consciousness; culturally responsive pedagogy

Barbara A. Lee, Distinguished Professor of Human Resource Management, SMLR; Ph.D., Ohio State
Employment discrimination; higher education law

Michael L. Lewis, University Distinguished Professor, GSAPP; Ph.D., Pennsylvania
Developmental psychology

Carrie Lobman, Associate Professor of Learning and Teaching, GSE; Ed.D., Teachers College, Columbia
Teacher education; performatory approaches to learning and teaching; early childhood education

Barbara R. Louis, Associate Professor of Pediatrics, RWJMS; Ph.D., Rutgers
Nature of intelligence; giftedness

Carolyn A. Maher, Distinguished Professor of Learning and Teaching, GSE; Ed.D., Rutgers
Mathematics education

Melinda Mangin, Associate Professor of Educational Theory, Policy, and Administration, GSE; Ph.D., Rutgers

Teacher leadership, instructional leadership, professional learning, LGBTQ-inclusive practices, and trans studies in education.

Matthew J. Mayer, Associate Professor of Educational Psychology, GSE; Ph.D., Maryland (College Park)
School violence prevention; taking a transdisciplinary approach; developmental psychology

Cheryl A. McLean, Associate Professor of Learning and Teaching, GSE; Ph.D., Georgia
Adolescent literacy; narrative inquiry; teacher education

Juan Pablo Mejía Ramos, Associate Professor of Learning and Teaching, GSE; Ph.D., Warwick (UK)
Mathematical reasoning; argumentation; proof

Naftaly H. Minsky, Professor of Computer Science, SAS; Ph.D., Hebrew University of Jerusalem (Israel)
Computer science

Nicole Mirra, Assistant Professor of Learning and Teaching, GSE; Ph.D., California (Los Angeles)
Adolescent critical and digital literacies; youth civic engagement; teacher education

Lesley M. Morrow, Distinguished Professor of Learning and Teaching, GSE; Ph.D., Fordham
Literacy development

Joseph I. Naus, Professor of Statistics, SAS; Ph.D., Harvard
Statistics and probability

Geraldine Oades-Sese, Associate Professor of Pediatrics, RWJMS; Ph.D., Fordham

Angela M. O'Donnell, Professor of Educational Psychology, GSE; Ph.D., Texas Christian
Educational psychology; collaborative and cooperative learning

Arthur B. Powell, Professor of Urban Education, SAS-N; Ph.D., Rutgers
Communication; technology; mathematics learning and teaching; ethnomathematics; rational numbers

Fred S. Roberts, Distinguished Professor of Mathematics, SAS/DIMACS; Ph.D., Stanford
Discrete mathematical models; graph theory; decision-making; measurement theory

Mark G. Robson, Board of Governors Distinguished Service Professor of Plant Biology, SEBS; Ph.D., Rutgers
Horticulture; public health

Joseph Rosenstein, Distinguished Emeritus Professor of Mathematics, SAS; Ph.D., Cornell
Mathematics education

Sharon K. Ryan, Professor of Learning and Teaching, GSE; Ed.D., Columbia
Early childhood education

Michael E. Saks, Distinguished Professor of Mathematics, SAS/DIMACS; Ph.D., Massachusetts Institute of Technology
Theory of computation; external set theory; partially ordered sets; graph theory

Tanja C. Sargent, Associate Professor of Educational Theory, Policy, and Administration, GSE; Ph.D., Pennsylvania
Sociology of education; comparative and international education; China

Lawrence Scanlon, Associate Professor of English, SAS; Ph.D., Johns Hopkins
Medieval studies theory; pedagogy; humanities computing

Saundra M. Tomlinson-Clarke, Professor of Educational Psychology, GSE; Ph.D., Florida State
Multicultural, psychosocial development

Carl E. Van Horn, Distinguished Professor of Public Policy, EJBSPPP; Ph.D., Ohio State
Employment policy and public policy

Robert Wilson, Professor of Mathematics, SAS; Ph.D., Yale
Mathematics

Nancy Wolff, Professor of Urban Studies and Community Health, EJBSPPP; Ph.D., Iowa
Methodology; costing methods; program evaluation

Dake Zhang, Associate Professor of Educational Psychology, GSE; Ph.D., Purdue
Special education

Associate Members of the Graduate Faculty

Carrie Ferraro, Associate Director of Marine and Coastal Sciences, SEBS; Ph.D., Rutgers
Data literacy; STEM education; workforce development

Amy D. Lewis, Assistant Professor of Learning and Teaching, GSE; Ed.D., Rutgers
Examining teacher preparation program structures; curriculum; instruction

Michelle Macchia, Assistant Professor of Professional Practice/Partnerships, GSE; Ed.D., Rutgers
Social justice; teacher-led collaborative inquiry; early literacy; inequity

Christelle Palpacuer-Lee, Assistant Professor of Learning and Teaching, GSE; Ed.D., Rutgers
Teacher development; global education; discourse analysis; arts-based research

Maqueda Randall-Weeks, Assistant Professor of Learning and Teaching, GSE; Ed.D., Harvard
Strategic educator engagement in policy and instructional practice reforms

Julia Sass Rubin, Associate Professor, EJBSPPP; Ph.D., Harvard
Parental education policy activism and impact of charter schools on host communities

David Shernoff, Associate Professor of School Psychology, GSAPP; Ph.D., Chicago
Influences on student engagement to learn, such as professional development

Michelle Van Noy, Assistant Research Professor, SMLR; Ph.D., Columbia
Education and work; community colleges; career decisions; credentials

Higher Education Faculty (GSE)

HIGHER EDUCATION FACULTY

Degree Programs Offered: Doctor of Philosophy

Director of Graduate Program: Ebelia Hernandez (848-932-0844; Email: ebelia.hernandez@gse.rutgers.edu)

Higher Education Program Faculty

Ebelia Hernández, Associate Professor of Educational Psychology and Graduate Program Director, Ph.D. in Higher Education, GSE. Ph.D., Indiana

Clark A. Chinn, Professor of Educational Psychology, GSE. Ph.D., Illinois (Urbana-Champaign)

Cara Cuite, Graduate Faculty, Nutritional Sciences, SEBS. Ph.D., Rutgers

Adrienne E. Eaton, Professor of Labor Studies and Employment Relations, SMLR. Ph.D., Wisconsin

Nichole M. Garcia, Assistant Professor of Educational Psychology, GSE. Ph.D., California (Los Angeles)

Marybeth Gasman, Distinguished Professor and Samuel DeWitt Proctor Endowed Chair in Education, GSE. Ph.D., Indiana

Gary A. Gigliotti, Professor of Economics, SAS; Associate Vice President of Academic Affairs, Teaching and Research. Ph.D., Columbia

Benjamin Justice, Professor of Educational Theory, Policy, and Administration, GSE. Ph.D., Stanford

Susan E. Lawrence, Associate Professor of Political Science, SAS; Associate Dean, Office of Undergraduate Education. Ph.D., Johns Hopkins

Barbara A. Lee, Distinguished Professor of Human Resource Management, SMLR. Ph.D., Ohio State

Beth L. Leech, Professor of Political Science, SAS. Ph.D., Texas A&M

Catherine A. Lugg, Professor Emeritus of Educational Theory, Policy, and Administration, GSE. Ph.D., Pennsylvania State

Melinda Mangin, Professor and Chair, Department of Educational Theory, Policy, and Administration

Angela M. O'Donnell, Professor of Educational Psychology, GSE. Ph.D., Texas Christian

Brent D. Ruben, Distinguished Professor of Communication, SC&I; Executive Director of the Center for Organizational Development and Leadership; Ph.D., Iowa

Sharon Ryan, Distinguished Professor of Learning and Teaching, GSE. Ed.D., Columbia

Jorge Reina Schement, Distinguished Professor of Communication Policy, American Studies, and Latino-Caribbean Studies, SC&I. Ph.D., Stanford

Tobias Schulze-Cleven, Associate Professor of Labor Studies and Employment Relations, SMLR. Ph.D., California (Berkeley)

Susan J. Schurman, Distinguished Professor of Labor Studies and Employment Relations, SMLR. Ph.D., Michigan

Hana R. Shepherd, Assistant Professor of Sociology, SAS. Ph.D., Princeton

Saundra M. Tomlinson-Clarke, Professor of Educational Psychology, GSE. Ph.D., Florida State

Carl Edward Van Horn, Distinguished Professor of Public Policy, Bloustein School of Planning and Public Policy; Director of the John J. Heldrich Center for Workforce Development; Ph.D., Ohio State

Associate Members of the Program Faculty

Stephanie A. Brescia, Assistant Professor of Practice of Educational Psychology, GSE PhD., Rutgers

Andrea Conklin Bueschel, Senior Vice President for Administration and Chief of Staff to the President. Ph.D., Stanford

Joan Collier, Associate Director for Assessment and Research in Residence Life. Ph.D., Georgia

Ralph A. Gigliotti, Director of Leadership Development and Research, Rutgers Center for Organizational Leadership. Ph.D., Rutgers

Michael Klein, Rockefeller Institute Fellow. Ph.D., New York

Lawrence Nespoli, President (retired), New Jersey Council of County Colleges. D.Ed., Pennsylvania State

Michelle Van Noy, Education and Employment Research Center, SMLR. Ph.D., Columbia

Dayna Weintraub, Director of Research and Assessment, Ph.D., California (Los Angeles)

Administration (GSE)

ADMINISTRATION

Christopher Span, Dean

Amy Wollock, Senior Assistant Dean of Enrollment Management and Academic Affairs

John Anciano, Senior Director for Finance and Administration

Mary Curran, Associate Dean for Local-Global Partnerships

Matthew Winkler, Assistant Dean for Advisement

Darren Clarke, Senior Director of Strategic Alliances and Online Programs

Clark A. Chinn, Chair, Department of Educational Psychology

Melinda Mangin, Chair, Department of Educational Theory, Policy, and Administration

Carrie Lobman, Chair, Department of Learning and Teaching

Professors Emeriti

Harold W. Beder

James Bliss

Sarane Boocock

Kenneth Carlson

Warren D. Crown

Gordon Darkenwald

Richard DeLisi

Charles Drawbaugh

Janet Emig

Earl V. Farrow

William A. Firestone

Nydia Flores

William C. Garner

John J. Geyer

James Giarelli

William Gillooly

Rodney Hartnett

Ronald T. Hyman

Martin Kling

Mary Malone

Jack L. Nelson

Douglas Penfield

Wallis Reid

Carl Schaefer

Milton Schwebel

Adam Scrupski

Nobuo Shimahara

Annell L. Simcoe

Jeffrey K. Smith

Dorothy Strickland

Daniel Tanner

Stanley J. Vitello

Duncan E. Walton

Carol Weinstein

Selected Centers and Partnerships (GSE)

SELECTED CENTERS AND PARTNERSHIPS

Selected Centers and Partnerships (GSE)

Center for Effective School Practices

Center for Effective School Practices

Executive Director: Cynthia Blitz, Ph.D.

Please visit the Center for Effective School Practices website.

The Center for Effective School Practices (CESP) is an equity-focused unit of the Graduate School of Education dedicated to excellence and integrity in applied research and evaluation.

CESP regularly partners with educational institutions and funding agencies to provide technical assistance, conduct high-impact mixed-methods research, mitigate systemic inequities across disciplines, and improve educational outcomes for all learners.

Funded by the National Science Foundation, National Institutes of Health, and state and federal Departments of Education, CESP develops and executes innovative and impactful projects on educational initiatives in addition to serving as internal and external evaluators on large-scale research projects.

For more information, please contact Vivian Allen, Center for Effective School Practices, 80 Cottontail Lane, Suite 210, Somerset, NJ 08873, by phone: 732-564-9100, ext. 16, or email: vivian.allen@gse.rutgers.edu

Selected Centers and Partnerships (GSE)

Center for Mathematics, Science, and Computer Education

Center for Mathematics, Science, and Computer Education

Director: David J. Shernoff

Associate Director: Edward Cohen

Senior Program Administrator: Brielle Kociolek

Senior Program Coordinator: Meeta Desai

Please visit the Center for Mathematics, Science, and Computer Education website.

The Center for Mathematics, Science, and Computer Education (CMSCE) brings together the expertise of individuals from many disciplines, within and outside the Graduate School of Education, to contribute to the achievement of educational excellence. It fosters collaborations among educators, researchers, and business leaders to enhance the learning and teaching of mathematics, technology, engineering, and science (STEM). The center offers in-district embedded professional development, mentoring, coaching, and curriculum development, as well as workshops at the CMSCE. The center has particular expertise and experience in high-quality, ongoing teacher education and training mathematics. We are on the forefront of training and implementation of integrative STEM and STEAM education, the Next Generation Science Standards, maker education, climate change education, engagement and motivation, project-based learning, and 21st-century skills and technologies. With the support of federal and state grants, we have formed partnerships with school districts throughout New Jersey.

For more information, contact Center for Mathematics, Science, and Computer Education, 3 Rutgers Plaza, New Brunswick, NJ 08901 (phone: 848-932-4915) or (email: cmsce@docs.rutgers.edu).

Selected Centers and Partnerships (GSE)

Rutgers Center for Minority Serving Institutions

Rutgers Center for Minority Serving Institutions

Executive Director: Marybeth Gasman, Ph.D., Samuel DeWitt Proctor Endowed Chair in Education, Distinguished Professor, and the Executive Director of the Rutgers Center for Minority Serving Institutions

Please visit the Center for Minority Serving Institutions website.

Located at the Rutgers Graduate School of Education and housed within the Samuel DeWitt Proctor Institute for Leadership, Equity, and Justice, the Rutgers Center for Minority Serving Institutions' (CMSI) mission is to: elevate the educational contributions of Minority Serving Institutions (MSIs), ensuring their participation in national conversations; increase rigorous scholarship on MSIs; connect MSI academic and administrative leadership to leading reform initiatives in the United States; inform administrative, instructional, and philanthropic practices at MSIs; advance effective policies that have a positive impact on strengthening MSIs, the development and support of their students and faculty, and the quality of the elementary and secondary schools within their communities; bring together MSIs around their common interests, strengths, and challenges to increase efficiency and optimize resources; and enhance the efforts of MSIs to close educational achievement gaps and assessment performance of disadvantaged communities.

CMSI serves as a repository for research, data, best practices, emerging innovations, and ideas on and within MSIs. With support from our sponsors, CMSI supports MSIs, researchers, policy makers, funders, and practitioners to promote the strengths and address challenges facing these institutions, and scholars to promote the strengths and address challenges facing these institutions.

For more information, please contact Marybeth Gasman, Ph.D., Samuel DeWitt Proctor Endowed Chair in Education, Distinguished Professor, and the Executive Director of the Rutgers Center for Minority Serving Institutions, Rutgers, The State University of New Jersey, Graduate School of Education, 10 Seminary Lane, Suite 110, New Brunswick, NJ 08901, 848-932-0774 or email marybeth.gasman@gse.rutgers.edu.

Selected Centers and Partnerships (GSE)

National Institute for Early Education Research

National Institute for Early Education Research

Director: W. Steven Barnett, Ph.D.

Please visit the National Institute for Early Education Research website.

The National Institute for Early Education Research (NIEER) is dedicated to improving early childhood education and care for all children through research to inform policy and practice. The institute has a strong multidisciplinary research faculty representing education, psychology, child development, policy, and economics. NIEER offers independent research-based analysis, technical assistance, and professional development to policymakers throughout New Jersey, across the nation, and internationally. NIEER's studies have been published in top scientific journals, as well as in nonacademic formats designed to meet the needs of policymakers and practitioners for timely, accurate, and succinct reports focused on issues of current concern. NIEER provides technical assistance to elected and appointed officials, their staff, and program administrators. Advancing transparency and accountability in public policy related to early childhood education is a particular focus of the institute.

For additional information, contact Ashlee Davison, NIEER, 536 George Street, New Brunswick, NJ 08901 (email: adavison@nieer.org).

Selected Centers and Partnerships (GSE)

Robert B. Davis Institute for Learning

Robert B. Davis Institute for Learning

Director: Carolyn A. Maher, Rutgers University-New Brunswick

Associate Director: Arthur B. Powell, Rutgers University-Newark

Please visit the Robert B. Davis Institute for Learning website.

Scholarly work at the Robert B. Davis Institute for Learning (RBDIL) focuses on the nexus of research and educational practice, particularly issues of learning and teaching in the content area of mathematics. Its mission is threefold: (1) to conduct detailed studies over time and across a variety of educational settings to identify how individual learners and groups of learners construct mathematical and forms of reasoning; (2) to understand how technology shapes and is shaped by learners mathematical activity; and (3) to use findings and products of research in teacher education to informing the design of learning environments and promoting instructional practices through which students develop critical thinking and reasoning abilities grounded in their understanding of mathematics. A particular strength of the Davis Institute is fostering innovative and academically robust collaborations that bridge boundaries of departments, campuses, institutions, and nations. Intellectual leadership emanates from Rutgers University-New Brunswick and Rutgers University-Newark, and faculty from diverse departments--computer science, digital library systems, educational psychology, learning and teaching, mathematics, statistics, and urban education--are among the Davis Institute's research scientists. Its collaborative partners include faculty researchers at universities in the United States and internationally, as well as school personnel who participate in research and professional learning opportunities.

Graduate students at Rutgers pursuing an Ed.M., an Ed.D., or a Ph.D. degree are active partners in research and teacher development initiatives through working with faculty affiliated with the RBDIL Institute. They are introduced to research through innovative, technology-rich courses taught by our faculty, initially designed for study contexts and subsequently institutionalized. Projects include: multiple longitudinal studies on the development of mathematical ideas and ways of reasoning; teacher learning about student reasoning from videos; eMath studies of collaborative problem solving in online environments and with tools of dynamic mathematics;

cyber-enabled design research using videos on children's learning in pre-service and in-service teacher education; and cyber-learning studies on the construction of multimedia artifacts, such as creating video narratives, that utilize a major video collection from more than a quarter century of research at the RBDIL.

For additional information, contact Carolyn Maher, Robert B. Davis Institute for Learning, Rutgers, The State University of New Jersey, 10 Seminary Place, New Brunswick, NJ 08901-1183 (phone: 848-932-0802, or email: carolyn.maher@gse.rutgers.edu).

Selected Centers and Partnerships (GSE)

Samual DeWitt Proctor Institue for Leadership, Equity, and Justice

Samuel DeWitt Proctor Institute for Leadership, Equity, and Justice

Executive Director: Marybeth Gasman, Ph.D., Samuel DeWitt Proctor Endowed Chair in Education, Distinguished Professor, and the Executive Director of Samuel DeWitt Proctor Institute for Leadership, Equity, and Justice

Please visit the Samuel DeWitt Proctor Institute for Leadership, Equity, and Justice website.

The Samuel DeWitt Proctor Institute for Leadership, Equity, and Justice (Proctor Institute) is a national center that focuses on issues of leadership, equity, and justice within the context of higher education. It brings together researchers, practitioners, and community members to work toward the common goals of diversifying leadership, enhancing equity, and fostering justice for all.

The Proctor Institute is named in honor of the late Samuel DeWitt Proctor, the first African American faculty member at the Graduate School of Education and the first to have an endowed professorship named after him. Proctor served as a Rutgers faculty member for 15 years and made significant contributions to advancing equitable practices in education, all while being committed to teaching, scholarship, mentoring, and service. Prior to Rutgers, Proctor was president of two historically Black colleges and universities (HBCUs)--North Carolina A&T University and Virginia Union University--associate director for the Peace Corps, a Civil Rights activist alongside Rev. Dr. Martin Luther King Jr., and a nationally renowned pastor.

The Proctor Institute is located at Rutgers University-New Brunswick, in the Graduate School of Education, and houses the Rutgers Center for Minority Serving Institutions (CMSI). The Rutgers Center for Minority Serving Institutions (CMSI) brings together researchers and practitioners from HBCUs, Tribal Colleges and Universities, Hispanic Serving Institutions, and Asian American, Native American, and Pacific Islander Serving Institutions.

For more information, please contact Marybeth Gasman, Ph.D., Samuel DeWitt Proctor Endowed Chair in Education, Distinguished Professor, and the Executive Director of Samuel DeWitt Proctor Institute for Leadership, Equity, and Justice, Rutgers, The State University of New Jersey, Graduate School of Education, 10 Seminary Lane, Suite 110, New Brunswick, NJ 08901, 848-932-0774 or email marybeth.gasman@gse.rutgers.edu.

About The Dean (SC&I-G)

ABOUT THE DEAN

Dafna Lemish became the interim dean of the School of Communication and Information in 2022.

Dean Lemish is a media researcher in the fields of children, youth, and leisure culture. An International Communication Association fellow, she is the founding editor of the Journal of Children and Media. Her research interests include children and media, gender representations and identity construction, qualitative methodologies, and feminist theory. She has published numerous books, refereed journal articles, and book chapters. She is currently engaged in various research projects, including on the role of mobile media in parent-child interaction; grandparents mediating their grandchildren's media use; and media and identity in the lives of migrant-academics.

About The School of Communication and Information (SC&I-G)

ABOUT THE SCHOOL OF COMMUNICATION AND INFORMATION

The School of Communication and Information (SC&I) is a dynamic center of learning at the heart of the Rutgers University-New Brunswick College Avenue campus. Founded in 1982 with the merger of the Graduate School of Library and Information Studies, the School of Communication Studies, and the Department of Urban Journalism, SC&I research and teaching focuses on organizational communication, social and new media, library and information science, journalism and media studies, information technology, and health communication and information. The school's competitive and renowned programs prepare students for top careers in today's digital environment.

The school leads the university in the study of communication, information, and media processes, organizations, and technologies as they shape and define individuals, societies, and the relationships among them. Rapidly expanding communication and information technologies are drawing these distinct but allied fields closer together while, at the same time, extending beyond them and exerting a major influence on our society and its economic and cultural endeavors. As a community of scholars and teachers SC&I is committed to educating individuals who will make lasting contributions to the interdisciplinary study and professional practice of communication, journalism and media, library and information science, and to society at large.

Fast Facts

- Close to 75 full-time faculty members in three departments: Communication, Journalism and Media Studies, Library and Information Science
- About 160 part-time faculty members, most of whom are highly accomplished communication, information, and media professionals working in the metropolitan area
- Over 2,300 undergraduate students pursuing one of three undergraduate majors: communication, information technology and informatics, journalism and media studies

- Over 600 students in two undergraduate minors: digital communication, information, and media; and gender and media
- Over 650 students--both on campus and online--in three master's programs: communication and media, health communication and information, and information
- Over 90 doctoral students
- On-site and online continuing education classes available
- Over 27,000 alumni
- Tuition is competitive with the top 10 national programs in these disciplines
- Located less than 40 miles from New York City and 60 miles from Philadelphia
- Faculty and students win national and international awards every year from scholarly and professional associations

The most up-to-date information about the School of Communication and Information may be found on the school's website.

Academic and Research Units (SC&I-G)

ACADEMIC AND RESEARCH UNITS

Department of Communication

DEPARTMENT OF COMMUNICATION

The Department of Communication is dedicated to advancing knowledge about communication and its practice in society. The department examines how meaning is created and negotiated in human interaction to address the personal, professional, and public communication challenges and opportunities posed by 21st-century life. Students become leaders in private, public, and civil sectors by developing a deep and practical appreciation of how communication shapes the world in which we live. Research from the department's faculty experts examines the complexity of communication processes related to five focal areas: communication and technology, health communication, interpersonal communication, language and social interaction, and organizational communication. Students may also acquire knowledge and skills allowing them to pursue careers related to strategic communication and public relations, leadership, health and wellness, relational and family communication, and a range of other options.

The department is linked to the following programs:

- Communication Major (leading to a bachelor's degree)
- Master of Communication and Media (M.C.M.)
- Master of Health Communication and Information (M.H.C.I.)
- B.A./M.C.M. Dual-Degree Program
- Communication area of the school's Ph.D. program

The following are foci of our faculty scholarship:

- Communication and Technology
- Health Communication
- Interpersonal Communication
- Language and Social Interaction
- Organizational Communication

The department also supports the Center for Communication and Health Issues, the Center for Organizational Leadership, the NetSCI Lab, the Laboratory for the Study of Applied Language Technology and Society (SALTS), and the Rutgers University Conversation Analysis Lab.

The Department of Communication faculty is comprised of experts in a variety of fields. The faculty include multiple national and international award winners, dissertation award winners, NCA and ICA division chairs, keynote presenters at national and international conferences, journal/book/encyclopedia editors and editorial board members for leading academic journals, authors of scholarly books, and those who have secured millions of dollars in grant funding. The adjunct faculty include recognized experts and professionals in fields related to the coursework.

Academic and Research Units (SC&I-G)

Department of Journalism and Media Studies

Department of Journalism and Media Studies

The Department of Journalism and Media Studies is concerned with both the practice of journalism and mass media and the impact of media and new technology on society; public policy and understanding; and the planning and development of public information systems. The full-time faculty combine both practical and research experience in journalism and media studies. In addition, the department draws upon a number of media practitioners as part-time faculty.

The department offers an undergraduate major leading to the bachelor of arts degree and a specialization within the master of communication and media program in digital media, and it participates in the school's doctoral program with a specialization in media studies.

Faculty research examines a broad range of questions and problems in journalism, media, and society and draws upon a breadth of research traditions and approaches. Topics of study include the role of increasingly global media in democracy, the intersection of popular culture and the media, the impact of new and emerging technologies on media and society, historical perspectives on media, and ethical and professional issues framing and affecting journalism, media, and society.

Academic and Research Units (SC&I-G)

Department of Library and Information Science

Department of Library and Information Science

The focus of the Department of Library and Information Science is on how people and organizations find and use information. Our research interests range from knowledge management to children's literature, digital libraries, the organizational impact of new technology, interfaces and economics of information, and the design and evaluation of information services. The department offers an undergraduate information technology and informatics major leading to the bachelor of arts degree, a master of information degree, and participates in the school's doctoral program with multiple specializations.

Our master's program ranks sixth in the nation according to *U.S. News & World Report*, drawing students to both its New Jersey-based campus and to its online learning option. Our undergraduates and Ph.D. students win awards from student and scholarly associations. The graduates from all of our programs find employment as scholars, in traditional professional roles in libraries and information agencies, and in many high-tech industries and organizations.

The department's research program spans library and information science from youth services to information retrieval and from policy to school media. The faculty are widely published and heavily cited in these and other areas, supporting the high status of the master of information (M.I.) program in national rankings, informing the undergraduate program, and contributing to the education of Ph.D. students. The faculty design and study new information technologies and new uses for information and media. Research addresses the organization and dissemination of information; the design, management, and evaluation of information services and systems; and diverse topics in professional education for library and information science. There are many opportunities for students at every level to become involved in faculty research projects, gaining valuable hands-on understanding of the interplay between new research and the cumulative achievements of the field. Faculty in the Department of Library and Information Science have interactions across the university with other faculty members from departments as varied as cognitive science, computer science, business, and education.

Members of the library and information science faculty serve as editors of internationally recognized journals in their fields of interest, and their research is supported by organizations such as the National Science Foundation, the Council on Library and Information Resources, the Defense Advanced Research Projects Agency, the U.S. Department of Education, and the Special Libraries Association, as well as individual libraries.

The diverse research interests of the faculty are united by the shared conviction that the revolutionary technologies of computers and networking will serve humanity best when they are developed and understood in terms of their service to the needs of individuals and organizations. The Department of Library and Information Science recognizes that for effective teaching in our rapidly changing field, it is essential that every member of our faculty be active in the creation of new knowledge in that field through innovative research.

As scholars and educators, the faculty are committed to an advocacy for accurate and current information, for wide public and professional access to information, and for the critical use of information to address the needs and problems of our society. The department advances these values through personal and professional leadership and service in regional, national, and international organizations, societies, and councils. As citizens of Rutgers University, the faculty serves their academic community by offering advice in matters related to information education, and by representing the interests of colleagues and students in governance and academic affairs. Beyond

Rutgers, the faculty serve their community, business, and government organizations in areas relating to information and its technologies, the provision of information and research services, and the development of libraries, information agencies, and cultural institutions of all kinds.

Academic and Research Units (SC&I-G)

Centers, Labs, and Clusters

Centers, Labs, and Clusters

Center for Communication and Health Issues

The Center for Communication and Health Issues (CHI) is a consortium of educators, counselors, and students with a mission to conduct research on communication and health issues affecting college students and to design, implement, and evaluate campus and community-based education, intervention, and prevention programs.

Center for International Scholarship in School Libraries

The Center for International Scholarship in School Libraries (CISSL) is dedicated to research, scholarship, education, and consultancy for school library professionals. It focuses on how learning in an information-age school is enabled and demonstrated by school library programs, and how inquiry-based learning and teaching processes can contribute to educational success and workplace readiness for learners. CISSL's Director is Professor Carol Kuhlthau and Professor Ross Todd is the Director of Research.

Health and Wellness Cluster

The Health and Wellness Cluster brings together faculty across the school whose research, teaching, and service focus centrally on closing disparities and improving health and wellness outcomes for individuals, groups, and communities in the United States and globally. Our work examines the evolving role that communication, information, and media play in facilitating personal and public health via a range of processes and mechanisms--health education and health literacy, risk communication, persuasion and social influence, social support, capacity-building, and informatics--and across a wide range of health challenges, including drug and alcohol addiction, cancer, HIV/AIDS, obesity, Alzheimer's disease, mental health, and wellness more generally. We work closely and collaboratively with colleagues and practitioners across disciplines and professional practices to produce effective and sustainable solutions to these and other challenges, and we are equally committed to the education of our students and to the betterment of our communities.

HCI Lab for Health and Sustainability

HCI Lab for Health and Sustainability is an interdisciplinary research lab that studies human behaviors, creates new computing technologies, and evaluates the use of new systems in real-world settings to improve the quality of everyday life.

Media, Inequality, and Change Center (MIC)

The Media, Inequality, and Change Center (MIC) is a collaboration between Rutgers University's School of Communication and Information and the University of Pennsylvania's Annenberg School. The center explores the intersections between media, democracy, technology, policy, and social justice. MIC produces engaged research and

analysis while collaborating with community leaders to help support activist initiatives and policy interventions. The center's objective is to develop a local-to-national strategy that focuses on communication issues important to local communities and social movements in the region, while also addressing how these local issues intersect with national and international policy challenges.

NetSCI Lab

The NetSCI Lab is dedicated to producing cutting edge network research, advancing theories of social networks, methods for network analysis, and the practical application of network research.

Rutgers Center for Organizational Leadership (OL)

The Rutgers Center for Organizational Leadership (OL) is a universitywide center at Rutgers University that provides programs and consultation in the areas of organizational advancement and academic and administrative leadership development. OL offers a wide array of programs and services to help administrators, faculty, staff, and graduate and medical students enhance their leadership and organizational knowledge and competencies. Formed in 1993, OL serves as a national leader in the areas of organizational quality and self-assessment, leadership development, and communication improvement in higher education.

Rutgers University Conversation Analysis Lab (RUCAL)

The Rutgers University Conversation Analysis Lab (RUCAL) brings together scholars with an interest in understanding the workings of social interaction across a wide variety of social settings and contexts. RUCAL faculty and students examine everyday communicative activities as they are captured in field recordings of naturally occurring interactions and study talk-in-interaction in both social and institutional settings.

SC&I Youth Cluster

SC&I Youth Cluster is a community of scholars from the School of Communication and Information at Rutgers University who explore the role of communication, media, information, and technology in the lives of young people and the people and institutions that surround them. Our mission is two-fold: 1) to provide opportunities within the school for support, synergy, and collaboration; 2) to advance knowledge within the field by identifying cutting-edge issues, and bringing to bear our collective skills to address these issues.

Social Media and Society Cluster

The Social Media and Society Cluster is a transdisciplinary unit within Rutgers School of Communication and Information that supports research extending across the boundaries of the i-School, communication, and media studies programs within the school.

Facilities (SC&I-G)

FACILITIES

The School of Communication and Information (SC&I) has offices, classrooms, and laboratories on the College Avenue campus of Rutgers University-New Brunswick in eight locations:

- The main SC&I building is at 4 Huntington Street, on the corner with College Avenue. It houses classrooms, computer and multimedia labs, administrative and faculty offices, research areas including a communication/interaction lab, conference rooms, and student study space.
- DeWitt House at 185 College Avenue houses faculty and research offices.
- SC&I Annex A at 192 College Avenue houses faculty and staff offices and a podcasting/multimedia lab.
- SC&I Annex B/Friedrich House, behind Annex A, houses faculty and doctoral student offices and a conference room.
- Huntington House at 184 College Avenue houses faculty offices, a conference room, and lounge space for doctoral students.
- Richardson House at 1 Richardson Street houses faculty and doctoral student offices.
- SC&I has a suite of rooms in Alexander Library, on the fourth floor in the Scholarly Communication Center, that houses faculty and doctoral student offices.
- The school's newest facility is at 191 College Avenue, housing faculty and doctoral student offices and a conference room.

Technology Infrastructure

Technology Infrastructure

The School of Communication and Information (SC&I) has a fiber infrastructure and gigabit switched Ethernet environment, and a fully virtualized environment that supports both Windows and Linux servers. In addition, SC&I has multiple research sandbox servers and storage arrays. These systems provide space and application services for the research and curricular needs of the SC&I community. The school is a founding partner in collaboration with the Rutgers Office of Information Technology and School of Arts and Sciences in an 80-node high performance-computing cluster. The school also contracts with cloud vendors including Amazon AWS, Microsoft Azure, and Box for required services. System maintenance, compliance with university privacy, and security policies are handled by the SC&I IT staff.

Technology facilities include multi-use classrooms and laboratories. Each of the 14 classrooms, conference rooms, and laboratory facilities is equipped with technology and display devices to enable presentations, small group collaboration, and participatory learning and research. All facilities are equipped with either Microsoft- or Apple-based systems. There are a total of 108 systems to provide for classroom/laboratory use and general computing needs. There are also 60 mobile devices including tablets and cell phones available for application development and testing.

SC&I provides a suite of industry standard software for web development, multimedia creation, presentations and programming, and development. All software is available on the systems used by the faculty, staff, and students in-house and many are available via remote access for online and on-campus students. All servers and systems implement security groups and limited permissions. Individuals who create and store data control who views that data and how it can be manipulated. The IT staff monitor and recommend information protection strategies to all users. Data can be shared via FTP or NFS encrypted and protected network folders in cloud-based services.

The IT staff have expertise in system administration, web and application design and development, research and instructional support, and new technology development. Faculty, staff, or students with technology needs can contact the IT Helpdesk at help@comminfo.rutgers.edu or 848-932-5555 for assistance.

Libraries

Libraries

Rutgers University Libraries includes libraries at Rutgers University-New Brunswick, Rutgers University-Newark, and Rutgers University-Camden, which operate as a unified library system with coordinated public services, technical services, and collection development programs, including digital initiatives and a pioneering institutional repository. The libraries are committed to developing innovations in access services, information literacy, and digital initiatives. With over four million volumes and access to a world of electronic resources through membership in consortia such as the Association of Research Libraries, OCLC, and the Committee on Institutional Cooperation (the nation's premier higher education consortium of top-tier research institutions), the libraries are well able to serve the faculty, students, and staff of Rutgers University.

The Archibald Stevens Alexander Library, located on the College Avenue campus directly adjacent to the School of Communication and Information (SC&I), has extensive holdings in the research and curricular areas relevant to SC&I. For more information about the libraries, visit Rutgers University Libraries.

Academic Policies and Procedures (SC&I-G)

ACADEMIC POLICIES AND PROCEDURES

Note: See the **University Policies and Procedures** section in the Rutgers Main catalog for university-wide academic policies and procedures.

Registration and Course Information

Grades and Records

Cancellation of Classes

Absence Due to Religious Observance

Scholastic Standing

Graduation

Registration and Course Information (SC&I-G)

Registration and Course Information

Registration in credit-bearing courses requires formal admission to a degree or nondegree program, and payment of all charges to the university cashier are prerequisites to registration. Registration is a prerequisite to class attendance. All students who complete registration on time receive registration information by email for the following semester, and those who take part in registration receive term bills for the following semester. All students, regardless of method of payment, must make contact with the cashier each semester or their registration is canceled. Students who do not receive registration information by March 15 for the fall semester and by October 15 for the spring semester should contact the appropriate departmental office.

Newly admitted students receive registration instructions at the time of their admission.

Summer Session registration must be accomplished in accordance with instructions from the Summer Session office.

Change of Courses

Change of Courses

Drop/add periods and the refunds associated with drop/add periods are posted for each semester by the registrar. During drop/add periods, students may drop a class without any notation appearing on the transcript; later in the semester a dropped class will result in a W on the transcript. There are published deadlines each semester for the last day to drop a course. A student who stops attending a course and fails to give notice to the registrar will receive a failing grade in that course. The date on which the registrar receives notice from the student governs the academic and financial consequences of the withdrawal.

Withdrawal

Withdrawal

Undergraduate students who wish to withdraw from a semester should contact their adviser for their four-year school.

A graduate student who wishes to withdraw from the semester does so by following the University Withdrawal Process found here. The appropriate School of Communication and Information program director also should be consulted. A student who leaves the university without officially withdrawing in this manner will receive a failing grade in each course. The date on which the registrar receives the written notice governs the academic and financial consequences of withdrawal. The last day for semester withdrawal is posted on the University Registrar's Registration Calendar each semester.

Please note that notification to the instructor, adviser, or school does not fulfill the student's obligation to communicate directly with the registrar in all matters pertaining to changes in registration and withdrawal.

Registration and Course Information (SC&I-G)

Full- and Part-Time Students

Full- and Part-Time Students

For statistical, billing, and veteran certification purposes, a full-time undergraduate student is defined as one who is taking, during the fall and spring semesters, 12 or more credits. Half-time is defined as 6 to 11.99 credits, and fewer than 6 credits is defined as less than half time. In summer, a credit load of 6 or more credits is considered full time.

For statistical, billing, and veteran certification purposes, a full-time graduate student is defined as one who is taking 9 or more credits. Those taking less than 9 credits are part-time students. All courses, including those taken not-for-credit, are counted in computing the credits taken, except for VA certification. In Summer Session, a credit load of 4.5 or more credits is considered full time.

Registration and Course Information (SC&I-G)

Transfer of Credit

Transfer of Credit

Each School of Communication and Information program has unique policies about transferring credits. See each program listing for details.

Registration and Course Information (SC&I-G)

Interdepartmental Registration

Interdepartmental Registration

Undergraduates may register for courses across the university as permitted by each academic unit. However, students should review their plans with an adviser to assure they are meeting the requirements to graduate.

With the approval of their adviser or program director, graduate students may register for courses in other departments of Rutgers. They may be required to obtain permission from the department offering the course. Students in other Rutgers departments, schools, or colleges must apply to the School of Communication and Information program directors for permission to enroll in courses offered by the programs.

Registration and Course Information (SC&I-G)

Multiple School Registration

Multiple School Registration

It is the policy of the university that a student may not be registered in more than one unit of the university simultaneously. Students wishing to take courses in more than one unit in the same semester (or wishing to take courses in units in which they are not enrolled) may accomplish this through interdepartmental registration.

When, through multiple applications, a student is offered admission to more than one unit of the university, the student may register in only one. When a student has been admitted to a graduate and undergraduate unit, the registration is in the graduate unit.

This policy is in no way intended to abridge a student's freedom to pursue two degrees in two units simultaneously. Such students must make special arrangements to keep both units informed of their academic progress since they are registered in only one unit.

Registration and Course Information (SC&I-G)

Undergraduate Enrollment in Master's Courses

Undergraduate Enrollment in Master's Courses

The School of Communication and Information has two dual-degree program s that that allow admitted upper-level undergraduate majors to apply to a master's program and begin taking coursework while still completing the undergraduate degree. The programs enable the students to complete a bachelor's degree within four years and a master's degree in a fifth year; or students may choose to enroll part time and complete the graduate degree over a longer period.

One pathway enables communication and journalism and media studies majors to apply to the master of communication and media (M.C.M.) program. One pathway enables information technology and informatics majors to apply to the master of information (M.I.) program. One pathway enables all communication, information technology and informatics, and journalism and media studies majors to apply to the Master of Health Communication and Information. Details about admission requirements and program options appear in the M.C.M., M.H.C.I., and M.I. sections of this catalog, and on the school's website. Upper-level Rutgers undergraduate students who are not seeking a complete graduate degree may apply to the director of the relevant master's program for permission to register for selected M.C.M., M.H.C.I., or M.I. courses. Permission is based on the student's academic record and professional and academic goals. Undergraduates may request to transfer the graduate credits toward the master's degree if they are subsequently admitted to either program, provided such credits were not used for their undergraduate degree. Students wishing to make such transfers must register for E credits while in the undergraduate unit.

Registration and Course Information (SC&I-G)

Graduate Enrollment in Undergraduate Courses

Graduate Enrollment in Undergraduate Courses

Any course numbered 500 or above is designed for graduate students and normally carries credit toward one of the advanced degrees. Certain advanced undergraduate courses numbered in the 300s and 400s may be approved for a given graduate student, either as a regular part of his or her graduate program or as a means of remedying a deficiency in preparation. When a matriculated graduate student is permitted or requested to enroll in a course numbered below 500, explicit approval by the master's program director is required and the credit prefix G, N, or E appears on the transcript. See Grades and Records later in this chapter for rules related to credit prefixes. Students registering in undergraduate courses are subject to the policies of the undergraduate program offering the course.

Courses Taken Not-for-Credit

Courses Taken Not-for-Credit

Students who wish to enroll in a course without receiving credit may do so if they secure the advance approval of their advisers. When they register they must indicate not-for-credit status. They must pay the normal tuition and fees for the course and fulfill the same requirements during the semester, including the execution of any written assignments, as all other students. At the end of the semester, however, they may be exempt from the final examination or paper, and they will be assigned a grade of S (satisfactory) or U (unsatisfactory). The course and the grade are included on the student's record, but no credit toward a degree is given. See also the Grades and Records chapter for information regarding credit prefixes.

Grades and Records (SC&I-G)

Grades and Records

Students are graded in each course at the end of each semester as follows:

A	Outstanding.
B+	
B	Good.
C+	
C	Satisfactory. Only a limited number of courses with a grade of C are accepted for graduate credit; see Scholastic Standing.
F	Failing.
S/U	Satisfactory or unsatisfactory. Used for courses with the credit prefix N.
PA/ NC	Pass or no credit. Assigned upon completion of the work for specific courses.
W	Withdrawn without evaluation. Used when a student officially drops a course or withdraws during the first eight weeks of a semester.
IN	Incomplete. When a portion of coursework is incomplete and the instructor is unable to judge a student's course performance, the instructor may elect to assign a grade of IN. An incomplete remains on a student's record until course requirements are completed and the instructor assigns an appropriate letter grade. When a grade of IN is assigned, coursework must be completed within one year if the incomplete is to be converted to a grade. If unconverted, an incomplete becomes part of a student's permanent record.
T	Temporary. An instructor may assign a T followed by a grade when a portion of coursework is incomplete and the instructor is able to make a tentative judgment of a student's course performance on the basis of the portion completed. The grade assigned in conjunction with the T grade becomes the final grade, unless a better grade is reported as a result of the completion of coursework within the time allowed by the instructor. That time cannot extend beyond May 1 for fall and winter grades or December 1 for spring and summer grades. The symbol T has no meaning except when preceding a regular grade. The TZ grade is assigned only when a student is unable to finish his or her work or the instructor cannot submit a grade due to a verifiable emergency situation. The student and faculty member are urged to reach an agreement as soon as possible as to how the course should be completed. The TZ will have no immediate effect on a student's GPA; however, if the situation is not resolved within the following semester, the TZ will convert to an F, and the GPA will be recalculated accordingly.

Grades and Records (SC&I-G)

Provisional Grades

Provisional Grades

A provisional grade is either an incomplete (IN) or temporary (T) grade. Master's students whose records bear two or more provisional grades in credit-bearing courses are not permitted to register for subsequent semesters. See the section on Scholastic Standing for further details.

Grades and Records (SC&I-G)

Credit Prefixes

Credit Prefixes

The number of credits appearing on course transcripts may be preceded by a letter prefix as follows:

E	Course excluded from credit toward a degree. The student must complete all coursework, including the final exam.
G	A 300- or 400-series undergraduate course for which credit toward the graduate degree sought has been approved (not applicable for nonmatriculated students).
N	Course taken not-for-credit; examination not required; final grade of S (satisfactory) or U (unsatisfactory) assigned.
P	Course taken on pass/no credit basis; only permitted by student's school and school offering course.

Registration instructions issued each semester by the registrar will inform students of how to accomplish registration with a credit prefix. Credit prefixes are only required under the above conditions.

Grades and Records (SC&I-G)

Warning Notices

Warning Notices

Instructors shall individually warn students who are making unsatisfactory progress in a course, if appropriate to the course. Students are advised to consult with each instructor concerning such warning and with advisers if warned in more than one subject.

Grades and Records (SC&I-G)

Student Complaints about Grades

Student Complaints about Grades

Students wishing to file a complaint about a course grade or a grade received for a particular piece of work in a course should first attempt to resolve the matter through discussion with the instructor. If the issue cannot be satisfactorily resolved between student and instructor, the student may specify in writing the basis for the complaint and request a review by the departmental chair or program director. A written complaint about a grade for work completed while the course is in progress must be submitted to the chair or program director no later than two weeks after notification of the grade. A student must submit a written complaint about a final course grade to the departmental chair or program director no later than four weeks after the posted date of the official notification of grades. A student who wishes to appeal the decision of the departmental chair or program director shall appeal

in writing to the office of the dean of the faculty offering the course. Written notification of the action taken by the chair, the program director, or the dean will be sent to the student within four weeks of the filing of the appeal, excluding those weeks in which classes are not in regular session.

Grades and Records (SC&I-G)

Transcripts

Transcripts

Official Transcripts, Verifications, and Term Grade Reports

Requests for official transcripts for all current and former students will be processed in the order received. Allow ten (10) days for release. We also cannot accept EMAIL requests. To request any of these, please use the Transcript Request Application.

Transcripts of academic work include all courses taken and grades received at the university. Students may request a transcript that includes all courses taken while enrolled as an undergraduate student (matriculating, nonmatriculating, and Summer Session), all courses taken while enrolled as a graduate student (matriculating, nonmatriculating, and Summer Session), or all courses taken while enrolled in all schools.

Current Students: View Term Grades, Transcripts, and Class Schedules

Currently enrolled students can view their schedule of classes with meeting days, times, and locations, as well as their semester grades and full transcripts and/or transfer course credits. Transcript information is updated nightly. Transcripts are not available on Fridays from 6:00 PM to 8:00 PM.

View term grades, transcripts, and class schedules on MyRutgers.

NOTE: If you do not have a social security number, Rutgers Id or RUTGERS BIOMEDICAL AND HEALTH SCIENCES (formerly UMDNJ) ID, or you are not willing to supply it, you will not be able to request a transcript through this system.

To request a RBHS transcript, please download the Official Transcript Request Form. and mail it to the Registrar's office.

To request a Rutgers transcript, please download the Official Transcript Request Form, and mail it to the Registrar's office.

Grades and Records (SC&I-G)

Holds

Holds

The privilege of registration and advance registration are barred to students who have outstanding obligations to the university. Obligations may take the form of unpaid monies, unreturned or damaged books and equipment, parking fines, other charges for which a student may become legally indebted to the university, and failure to comply with disciplinary sanctions or administrative actions.

University departments and offices may place "holds" on registration for any students with an outstanding obligation.

Grades and Records (SC&I-G)

Student Identification Cards

Student Identification Cards

University Public Safety has implemented several state-of-the-art security technologies under the Identity and Access Management unit (IAM) to further enhance safety at Rutgers. IAM provides business service solutions for the entire Rutgers community ranging from ID card services to security systems.

RU ID information, locations, hours of operation, and contact information can be found at Institutional Planning and Operations.

Students must have an active role and be registered in official University schools and degree programs to be eligible to receive an RU ID. Additionally, you must have activated your NetID and uploaded your photo online. Those with multiple roles will receive an RU ID that indicates their primary relationship with the University based on the following hierarchy (employees, students, and guests).

There is no fee for your first RU ID. All replacement RU IDs are subject to a $20.00 replacement card fee per University Policy 30.1.10.

Cancellation of Classes (SC&I-G)

Cancellation of Classes

It is the general policy of the university not to cancel classes because of inclement weather. However, because of the occasional hazards of night driving in the winter, exceptions may be made for evening classes and, under exceptionally hazardous conditions, exceptions may be made for daytime classes.

If weather conditions make it necessary to cancel classes, a message will be available on the operating status page available at Operating Status; from the Rutgers Information and Referral Center, 732-445-info; by dialing "0" from campus locations; and RU-tv's Rutgers Information Channel, Channel 3. Announcements will also be made over the following radio stations: WRNJ (1510 AM), WCTC (1450 AM)/WMGQ (98.3 FM), WCBS (880 AM), WINS (1010 AM), WKXW (101.5 FM)/WBUD (1260 AM), WRSU (88.7 FM), and NEWS12 (cable).

Absence Due to Religious Observance (SC&I-G)

Absence Due to Religious Observance

It is the policy of the university to excuse without penalty students who are absent because of religious observances and to allow the makeup of work missed because of such absence. Examinations and special required out-of-class activities ordinarily will not be scheduled on those days when such students refrain from participating in secular activities. Absences for reasons of religious obligation will not be counted for purposes of reporting. A student absent from an examination because of required religious observance will be given an opportunity to make up the examination without penalty.

Scholastic Standing (SC&I-G)

Scholastic Standing

Undergraduate Programs

Students in undergraduate programs at the School of Communication and Information (SC&I) are admitted to the university through a four-year school at Rutgers and maintain their affiliation with that school throughout their matriculation. The scholastic standing policies of those schools apply to each student's scholastic standing with the university. Details of each school's policies may be found in the Rutgers University-New Brunswick Undergraduate Catalog.

A grade-point average (GPA) of 2.0 in the major is required for graduation from all SC&I majors. Only courses with grades of C or better will count toward any SC&I major or minor.

Any student who fails a core course requirement within the major or minor, or the premajor 100-level course, more than once will be required to obtain the school's approval prior to registering for the course for a third time.

Master's Programs

Candidates for SC&I's master's degree programs are expected to earn grades of B or better in their coursework and maintain a 3.0 GPA.

Within each program, no more than 6 credits bearing a grade of C or C+ may be used in meeting requirements for the master's degree.

A total of no more than 45 credits may be taken to meet degree requirements for the master's degrees in the school, including credits bearing the grade of IN or W. All grades will count in the cumulative GPA for a student, including repeated classes. Throughout a student's matriculation in the master's program, he or she may repeat only one failed course one time.

Poor Academic Performance

Each academic program has a Scholastic Standing Committee that includes the program director and at least one other faculty members, and the assistant dean for student services as an ex-officio member. This committee will review cases of students who have received grades below a B, which are defined as the following grades: C, C+, F, IN, TC, TC+, TF.

Warning. A student is warned in writing when he or she has received one grade below a B in any class, or at any time the Scholastic Standing Committee feel that the student's academic performance is such that he or she may be in difficulty unless the work improves. A student may also receive a warning if he or she has not made sufficient progress in the program due to an excess of course or semester withdrawals.

Probation. The Scholastic Standing Committee will review for probation any student who has received two grades below a B. Students who earn two grades of F qualify for academic suspension or dismissal (see below). A student receives written notification of being placed on probation if the committee determines that probation is appropriate. When placing a student on probation, the Scholastic Standing Committee may impose conditions on the student in order to continue in the program, such as limiting the number of credits to be attempted in the following semester or requiring completion of previous incompletes before additional credits may be attempted. Being on probation means that the student is continuing in the program with the understanding that he or she must improve the level of work and meet the conditions of probation set by the Scholastic Standing Committee. A student who is within two semesters of the time limit for the master of information (M.I.) degree who, based on outstanding credits, has no possibility of completing the degree on time should consider themselves in academic jeopardy and must make an appointment with the program director in order to register for the penultimate semester, regardless of whether that student is notified in writing about their academic jeopardy.

Dismissal. The Scholastic Standing Committee will review for dismissal any student who has received three or more grades below a B or two or more grades of F in any one semester or throughout their academic program. A student receives written notification of academic dismissal if the committee determines that dismissal is appropriate. Students who are dismissed from the program will not be permitted to take courses for credit unless they formally are readmitted to SC&I. The minimum dismissal time before readmission is one full semester, not including the summer.

Suspension. The Scholastic Standing Committee will review for academic suspension any student who has met conditions for dismissal as a result of receiving unsatisfactory temporary grades (TC, TF, TZ, IN, etc.). Students placed on academic suspension are not eligible to continue with courses until the outstanding course work or requirements are completed and the unsatisfactory grade is officially changed to a satisfactory grade within the university system. The suspended student will then be appropriately reinstated into the next eligible academic semester.
If the incomplete or temporary grades are not resolved by the next semester or any future semester, the academic suspension adjusts to academic dismissal and the student is no longer eligible to continue in the program.

Scholastic Standing Committees will notify students of their academic standing status (i.e., warning, probation, suspension, or dismissal) in the weeks following a fall, spring, and summer semester before the following semester begins. Due to the scheduling of Winter Session, grades from that semester maybe considered with spring grades.

Appeal. Students who wish to appeal a decision of probation or dismissal by the Scholastic Standing Committee should follow the appeal procedure carefully.

1. Applicants must appeal in writing to the program director within 30 days of the decision date. The appeal request should explain why the student believes the original decision should be overturned, including any additional information the student believes was not considered by the Scholastic Standing Committee when they made their original decision.
2. The program director will acknowledge receipt of the appeal request within five work days.
3. Upon receipt of the written appeal, the program director will review the student's file to ensure that the scholastic standing review was handled according to established policies and procedures. After this procedural review, the file will be returned to the members of the Scholastic Standing Committee that made the original decision, with the request that the decision be reconsidered.
4. The Scholastic Standing Committee will reconsider the case using any additional information submitted in the appeal. The committee may either render a new decision or confirm the original decision. The student will be notified in writing within 30 days of the submission of the appeal.
5. Should the student be dissatisfied with the disposition of the first appeal, a subsequent appeal may be made in writing directly to the dean of the school within 30 days of the receipt of the Scholastic Standing Committee's decision. The dean will review the file and consult as necessary with the Scholastic Standing Committee. The dean's decision is made in writing to the student, with copies of the decision to the Scholastic Standing Committee and to the Office of Student Services. The dean's decision is final.

Readmission. Students who have been dismissed for academic reasons cannot be considered for readmission until they can provide evidence that they can successfully complete the program. Such students must reapply to the program. The faculty may stipulate one or more of the following:

1. A minimum period of time following the dismissal (at least one semester not including Summer Session) before an application for readmission will be considered. If reapplication will be within one year of the dismissal, the student need not provide new transcripts or recommendation letters as part of that process.
2. Any other evidence (e.g., medical report) or requirement that might be deemed appropriate for a particular student.

Students usually are not readmitted after a second dismissal action.

Ph.D. Program

Policies governing the scholastic standing of students in Ph.D. programs may be found on the policy webpage of the School of Graduate Studies.

Graduation (SC&I-G)

Graduation

Degrees are conferred by the university upon recommendation of the faculty. Degrees are conferred and diplomas issued after each graduation date through the year, in August, October, January, and May; it generally takes about two months after the graduation date for the diploma to be received. Students who require proof of completion of degree requirements prior to the issuance of the diploma may request a certificate of completion. Such a request is made to the registrar and will only be honored if the student has completed a diploma application and that application has been approved by the school.

Diploma Application

Diploma Application

In order to be considered for candidacy, a student must complete a Diploma Application online at the New Brunswick registrar's website. The forms must be submitted as follows:

For diploma dated	Submit form by
October	October 1
January	January 4
May or June	March 15
August	August 15

Unless the form is submitted at the appropriate time by the candidate, the degree is not conferred and graduation consideration is deferred in some cases by as much as a year until the next degree date for which the candidate files a timely application.

If, after filing the application, a candidate is unable to complete the degree requirements by the end of the semester for the degree date specified, another application must be filed.

Undergraduate Programs (SC&I-G)

UNDERGRADUATE PROGRAMS

The School of Communication and Information (SC&I) offers undergraduate courses open to students across the university in all majors that are of general interest and may fulfill requirements of the Core Curriculum, such as Public Speaking; Intercultural Communication; Gender and Technology; Gender, Race, and Class in the Media; Health Message and Campaign Design.

The school offers the following majors and minors that may be taken as part of a bachelor's program:

- Communication major
- Information Technology and Informatics major
- Journalism and Media Studies major
- Digital Communication, Information, and Media minor
- Gender and Media minor

In addition, the school participates in the New Brunswick Data Science program which offers both a major and minor.

Each of the SC&I programs has specializations that are outlined in the section Undergraduate Programs of Study.

The school does not admit first-year or transfer students directly to the university. Students enter through a Rutgers school such as the School of Arts and Sciences, the School of Environmental and Biological Sciences, or the Mason Gross School of the Arts, and may choose a major or second major or minor in a SC&I program. All students must conform to the requirements and policies of their four-year school as well as the policies of SC&I for their major and/or minor.

Because the curricula of the school reflect the very dynamic disciplines and professional fields in the areas of communication, information technology, journalism, and media, new programs and new specializations within those programs are regularly developed and offered. Check the school's website for the most up-to-date information about programs offered.

Pursuing a Double Major within SC&I

Current and incoming undergraduate majors in communication, information technology and informatics, and journalism and media studies can apply to pursue a second major within the School of Communication and Information. Interested students must be in good academic standing, must already be enrolled in a SC&I undergraduate major, and must be able to fulfill the requirements of the second major without extending their time to graduation. Students successfully admitted to two majors within SC&I will be responsible for completing the academic requirements associated with both majors.

Students who double major earn a single bachelor's degree, with both majors noted on the student's official transcript. Students should be aware of all requirements of their Rutgers four-year school, including the need for general education courses (e.g. SAS Core courses) and requirements related to majors and minors. If a student does not complete each academic major in full, they will not be certified for degree completion.

Students apply to a SC&I major using the SC&I undergraduate application for admission. Acceptance to one major does not guarantee acceptance to a second one, as each program holds an independent acceptance process. Students should carefully consider the implications of double majoring in their time-to-degree before applying.

Students considering a SC&I double major should consult an undergraduate academic advisor within the School of Communication and Information and an academic advisor within their four-year college.

Student Life (SC&I-G)

Student Life

Students of the School of Communication and Information (SC&I) have the opportunity to participate in residence life, dormitories, or nearby off-campus housing in New Brunswick. See the Residence Life website for further information.

Rutgers University-New Brunswick offers undergraduate students almost unlimited possibilities for co- and extracurricular activities. There are over 400 student organizations on campus, and their student leaders participate in advisement, organizational development programs, and support services. These groups range from academic to social action organizations and include the student government of the university, Rutgers University Student Assembly (R.U.S.A.). There are over 80 fraternities and sororities that offer opportunities for friendship, academic support, and housing. Rutgers has a wide range of intercollegiate and intramural athletics and is home to the Scarlet Knights

Within SC&I there are over a dozen student organizations that offer social, educational, service, and career development events. Most events are publicized and open to all students. Leadership opportunities are plentiful, and student leaders receive ongoing support and administrative assistance through the SC&I Office of Student Services.

The SC&I Leadership Council is an advisory group consisting of the presidents and vice presidents of each of the undergraduate and graduate student organizations recognized and supported by the school. The Leadership Council serves as a vehicle for collaborative opportunities and initiatives including: providing a voice for the student experience; promoting interactions and collaborations among student organizations; providing perspective and direct feedback to the school's administration; and developing models for leadership for all students.

Undergraduate Financial Aid (SC&I-G)

Undergraduate Financial Aid

The School of Communication and Information (SC&I) does not admit undergraduate students directly to Rutgers. Students enter through one of the four-year undergraduate schools of the university and are eligible for all financial aid from the university and their four-year school. Rutgers University-New Brunswick financial aid information may be found online.

Federal work-study employment may be offered as a self-help portion of a financial aid award. Application for this program is made by filing the Free Application for Federal Student Aid (FAFSA) available online. On-campus jobs are available in many areas. Selection for a particular job is based on skills, job availability, university needs, and student preference. The assigned employment opportunity is based on an expectation that the student will work between five and 15 hours weekly throughout the fall and spring academic semesters; in the case of summer assignments, the expectation is that the student will work between 20 and 35 hours per week. Off-campus employment, including paid community service positions and reading tutorial jobs in elementary schools, also are available. No job assignments are made until all paperwork required to accept the aid is complete.

SC&I offers a limited number of scholarships and a few prizes to high-achieving Rutgers undergraduates who are declared majors in the school or graduate students enrolled in degree programs. Continuing students are notified early in the spring semester of what scholarships will be available in the coming year, and have an opportunity to apply for them. Graduate students applying to SC&I can indicate their financial needs on their application forms. Doctoral students are considered for teaching assistantships, graduate assistantships, or fellowships, which provide a salary or stipend as well as tuition and fee remission.

Detailed information about what scholarships and prizes were available in the most recent academic year can be found on the school's website.

Advising and Career Services (SC&I-G)

Advising and Career Services

The School of Communication and Information (SC&I) Office of Student Services provides academic assistance, student support and referral, career guidance and support, and student life engagement opportunities to students in all SC&I academic programs.

Current and prospective students are encouraged to seek out advising throughout their academic careers. SC&I Student Services staff can provide basic information about academic programs, admissions, degree requirements, and career planning. Students can also speak with Student Services staff when they need support dealing with nonacademic circumstances that affect their academics. Faculty in each degree program can also offer advising on matching course selection with intellectual interests and career goals.

Basic academic program information is provided on the school's website. Students are encouraged to schedule appointments with the student services advisors, the director for their major, or other department faculty. All courses are not offered every semester, and students are strongly encouraged to check course prerequisites carefully and formulate a plan of study that will enable them to develop a coherent area of concentration in the major that meets their career goals while taking into account course availability. Students must also seek advising through their four-year school regarding appropriate minors, double majors, and school requirements in concert with a SC&I major.

Career Services

The Office of Student Services provides targeted career support for students in all SC&I academic programs through career training workshops, job and internship fairs, and individual and group career counseling. SC&I students are also encouraged to seek additional career guidance and support through the Career Exploration and Success office.

SC&I cultivates relationships with employers and alumni to provide students with employment opportunities and information. In addition, each of our degree programs has an active internship program and most students do choose to participate.

Contact information

The Office of Student Services is in Room 214 of the main School of Communication and Information building. Prospective and current students with inquiries or wishing to schedule an appointment can contact advising staff via phone or email.

Phone: 848-932-7550

Undergraduate Programs - undergrad@comminfo.rutgers.edu

Master of Communication and Media - mcm@comminfo.rutgers.edu

Master of Health Communication and Information - mhci@comminfo.rutgers.edu

Master of Information - mi@comminfo.rutgers.edu

Ph.D. - sciphd@comminfo.rutgers.edu

Undergraduate Programs of Study (SC&I-U)

UNDERGRADUATE PROGRAMS OF STUDY

Communication

Information Technology and Informatics

Journalism and Media Studies

Digital Communication, Information, and Media

Gender and Media

Other Programs of Study and Opportunities

Communication (SC&I-G)

Communication

The Department of Communication emphasizes the study of the nature, diversity, and impact of communications on the evolution of individuals, groups, and institutions within society. The undergraduate major in communication provides a broad, theory-based education and allows for concentration in a specific area, such as strategic communication and public relations, health and wellness communication, relationship and family communication, and leadership in organizations and communities. Courses in communication cover ideas and applications in preparation for communication careers in business, education, or government, for the pursuit of graduate degrees in communication and other social science fields, or as a supplement for students whose primary interests are in other areas such as political science, computer science, business, human resources, health care, and more.

Graduates from the undergraduate communication program are expected to achieve these learning goals:

- Understanding of fundamental communication perspectives, theories, and concepts.

- Ability to use communication theories and concepts to analyze human behavior (including interpersonal, family, group, health, organizational, and technological settings).
- Proficiency in gathering and using evidence to study and understand communication processes and consequences (including asking questions and systematically attempting to answer them, as well as understanding the value and limitations of research processes and conclusions).
- Competency in written and oral communication in varied settings (including interpersonal, family, group, health, organizational, or technological).
- Ability to apply communication theories and concepts to social, professional, and civic life (including issues of diversity, ethics, and civic engagement).

Career Opportunities
Communication graduates find opportunities in a wide variety of careers in business, education, government, and the nonprofit sectors. Skills in oral and written communication are some of the most sought-after characteristics all employers look for when hiring. Radio and TV, advertising and public relations, publishing, sales, and financial services are but a few of the many areas in which these graduates find employment. Any work that involves communicating as its focal point is a potential career field. The communications industry is a competitive one, however, and experience gives everyone an extra advantage. The communication program offers internship opportunities for credit. In addition, an advanced degree can offer an edge, and the school offers a five-year bachelor's/master's program; for more information, see below.

Admission to the Major
The Department of Communication seeks a highly motivated and diverse student body. Admission to the communication major is competitive; meeting the minimum requirements does not guarantee acceptance. Minimum requirements for admission include

- completion of at least 15 credits at Rutgers, or 15 transfer credits, with a grade-point average of 2.0 or better;
- a grade of C or better in the required prerequisite course 04:189:101 Introduction to Communication and Information Processes (or an equivalent transfer course);
- a grade of C or better in 01:355:101 College Writing or an equivalent course or placement; and
- completion of the application including a well-written personal statement.

The admissions committee considers the following criteria when reviewing student essays: (a) evidence of your interest in the major; (b) your future plans and their relationship to the major; (c) your strength as a writer; and (d) any other qualities that make you a strong candidate for admission to the communication major. Applications are available on the school's website. Students may be admitted for the fall, spring, and summer semesters; check the website for application deadlines each semester. Students are strongly encouraged to consult the school's website for up-to-date information regarding admissions procedures.

Major Requirements
Pre-Major Requirement

04:189:101 Introduction to Communication and Information Processes (3)
This course is required before a student can apply to the major.

SC&I Interdisciplinary Requirement (3 credits):

Either
04:189:102 Introduction to Media Systems and Processes (3) or

04:189:103 Information Technology and Informatics (3)

Core Requirements (15 credits):

04:192:200 Communication Theory (3)
04:192:201 Communication in Relationships (3)
04:192:300 Communication Research (3)

04:192:380 Public Speaking (3)

At least one of
04:192:354 Communication and Technology (3) or
04:192:355 Interpersonal Communication (3) or

04:192:357 Organizational Communication (3) or
04:192:359 Persuasive Communication (3)

Core Requirements effective for students admitted to the major after September 2017

Upper-Level Courses (15 credits):

Upper-level elective courses may include all 300- and 400-level courses and must include at least two 400-level courses except those completed as part of the core requirements. Courses 04:192:491,492 Independent Study in Communication and 04:192:495 Applied Study in Communication may not be used to fulfill this or the total credit requirement in the major. Students should check the communication website or undergraduate handbook to determine prerequisites for 300- and 400-level courses, and should speak with an adviser for help in planning coursework for the major

Specializations:

Four specializations are offered:

- Health and wellness communication
- Leadership in organizations and community
- Relationship and family communication
- Strategic public communication and public relations

The specializations are designed to provide essential knowledge of communication methods and techniques and help students build the necessary skills to start a career. The specializations require the same credits as the communication major in general, but are focused on one of the areas above. Specializations can be combined with additional coursework to better create a narrative around a student's skills and knowledge. Combining specializations can expand career opportunities further. See the webpage for the most current information and additional details.

Students must earn a grade of C or better in all 04:192 courses in order for those courses to count toward the major.

Internships and Other Educational Opportunities
The department encourages students to pursue internship experiences that complement their studies and potential career choices. Students must be accepted into the communication major in order to enroll in the internship. Students may apply up to 3 internship course credits toward their upper-division course electives in the major. Additional internship credits may be earned but do not apply to the communication major. Note that each four-year school in the university sets its own limits regarding the number of experiential credits a student may apply toward graduation.

Further information about the internship and about other educational opportunities such as specializations in the major is available on the communication program website.

Course Transfers
Courses that students have taken at other New Jersey colleges, which are articulated through the NJ Transfer system and recorded on a student's transcript with a communication course number, will be counted toward the major.
Students who wish to have a course they have taken elsewhere at Rutgers or externally at another university considered as one of their required or elective courses in the communication major must submit a request for transfer equivalency in writing to the SC&I Office of Student Services. To submit such a request, the letter of petition must include a copy of the full syllabus of the course, a copy of the student's transcript showing the grade achieved, noting which communication course it is requested to replace, and the reasons for consideration. The courses are evaluated in terms of their very close match of content and skills to the communication course, the level of the course, and the grade achieved, which should typically be a C or better. Students will be notified in writing of the outcome of the petition.

Dual-Bachelor's/Master's Degree Program for Communication Majors
Communication majors in their junior or senior year may apply to the master's program in Communication and Media (M.C.M.) for a dual-B.A./M.C.M. program or the master's program in Health Communication and Information (MHCI) for a dual-B.A./M.H.C.I. program. Each dual-degree program allows completion of both degrees in as few as five years. If accepted, certain communication courses taken in the senior year will count toward both the undergraduate degree and the masters. Once the bachelor's degree is completed, students will be in the master's program and complete the requirements.

Admission requirements are the same as for all M.C.M. and M.H.C.I. applicants. Details about the application process and degree requirements are on the school's website.

Information Technology and Informatics (SC&I-G)

Information Technology and Informatics

The Information Technology and Informatics (ITI) major is a 39-credit program offered by the Department of Library and Information Science. This major emphasizes the evaluation, implementation, use, and management of information technologies for a wide range of organizations and corporations, as well as the social and organizational aspects of information and communication technologies. The major unites theories drawn from the humanities and social sciences with practical computer-based competencies. This combination prepares students to work in

a diverse and highly competitive marketplace that demands individuals who understand the social, economic, and organizational impacts of technology locally and globally. The course of study combines rigorous thinking, problem solving, and technology skills in a program that is based on sound research and current technology applications.

Upon successful completion of the major, students will be able to demonstrate these learning goals of the ITI program:

- *[CREATE]* Develop new technological solutions to real-world problems through innovative, collaborative, and computation approaches.
- *[COMMUNICATE]* Communicate to professional stakeholders utilizing evolving technological platforms.
- *[CRITICAL THINKING]* Analyze the ever-changing interactions of people and technology, regarding pertinent social, cultural, philosophical, ethical, legal, and economic issues.
- [COORDINATE] Evaluate, implement, use, and manage information technologies for a wide range of organizations and corporations.

Career Opportunities

New Jersey's growth industries--technology, pharmaceuticals, logistics, and finance--are driven by innovative applications of information technology. Graduates of the major in information technology and informatics seek positions in sectors such as government, health care, education, consulting, and finance where technical skills and an understanding of organizational and social informatics make them valuable employees. Examples of where ITI graduates have launched their careers include:

- Information technology analysis
- IT consulting and project management
- Technology policy analysis
- User experience analysis and design
- Web design and development
- Information assurance and cybersecurity
- Networking and systems administration and support

Admission to the Major

The Department of Library and Information Science seeks a highly motivated and diverse student body. Admission to the information technology and informatics major is competitive, meeting the minimum requirements does not guarantee acceptance. Minimum requirements for admission include

- completion of at least 15 credits at Rutgers, or 15 transfer credits, with a grade-point average of 2.0 or better;
- a grade of C or better in the required prerequisite course 04:189:103 Information Technology and Informatics (or an equivalent transfer course);
- a grade of C or better in 01:355:101 College Writing or an equivalent course or placement; and
- completion of the application including a well-written personal statement.

The admissions committee considers the following criteria when reviewing student essays: (a) evidence of your interest in the major; (b) your future plans and their relationship to the major; (c) your strength as a writer; and (d) any other qualities that make you a strong candidate for admission to the ITI major. Applications are available on

the school's website. Students may be admitted for the fall, spring, and summer semesters; check the website for the application deadlines each semester. Students are strongly encouraged to consult the school's website for up-to-date information regarding admissions procedures.

Major Requirements

After completing 04:189:103 and being admitted to the major, ITI students must complete three sets of requirements:

School of Communication and Information (SC&I) Interdisciplinary Requirement (3 credits)

Either
04:189:101 Introduction to Communication and Information Processes (3) or
04:189:102 Introduction to Media (3)

Core Courses (12 credits)

ITI students must complete four required courses in the major:

1. 04:547:200 Social Informatics (3)
2. 04:547:201 Introduction to Computer Concepts (3)
3. 04:547:202 Object-Oriented Programming (3)
4. 04:547:210 Management of Technological Organizations (3)

Elective Courses (21 credits)

ITI students must select seven elective courses from the course listing for the ITI major.

Multiple areas of focus are available within the program. Please check the website for current offerings and course options.

Students must earn a grade of C or better in 04:547 courses in order for those courses to count toward the major.

Internships and Other Educational Opportunities

The ITI program encourages students to complete a 3-credit internship, which includes both work experience and an academic component. The program offers an independent study option to students who want to investigate a particular topic more fully under the supervision of a faculty member. High-achieving students who qualify may apply to participate in a senior thesis. Students interested in the senior thesis must first take Application Research for Information Technology (04:547:300) and then conduct a research project, taking the Senior Thesis Course (04:547:465).

Course Transfers

A maximum of 6 transfer credits may be counted toward the information technology and informatics major. Only courses with a grade of C or better will be accepted for transfer.

Courses that students have taken at other New Jersey colleges, which are articulated through the NJ Transfer system and recorded on a student's transcript with an ITI course number, will be counted toward the major. However, such courses do count as transfer courses to the major and therefore a maximum of 6 credits may be applied to the major.

Students who wish to have a course they have taken elsewhere at Rutgers or externally at another university considered as one of their required or elective courses in the ITI major must submit a request for transfer equivalency in writing to the SC&I Office of Student Services. To submit such a request, the letter of petition must include a copy of the full syllabus of the course, a copy of the student's transcript showing the grade achieved, note which ITI course it is requested to replace, and the reasons for consideration. The courses are evaluated in terms of their very close match of content and skills to the ITI course, the level of the course, and the grade achieved, which should typically be a B or better. Students will be notified in writing of the outcome of the petition.

Dual-Bachelor's/Master's Degree Program for ITI Majors

These degree pathways allow students to earn a bachelor's degree with an ITI major and a master of information (M.I.) degree or master's of health communication and information (M.H.C.I.) degree in five years of continuous, full-time study, or longer if completed part-time. Students who have completed at least 90 credits in their undergraduate program can be considered for admission into the dual-degree pathway to the M.I. or M.H.C.I. degree.

ITI majors who are admitted into either of the dual-degree pathways take two graduate courses in each of the fall and spring semesters of their senior year. Those courses are selected based on student goals and M.I. and M.H.C.I. program requirements. These four courses (12 credits) count both as undergraduate (ITI electives) and fulfill graduate (M.I. or M.H.C.I.) requirements as long as the student earns a grade of B or better. Upon successful completion of coursework in the senior year, dual-degree students will graduate from the undergraduate program and transition into the graduate program as an M.I. or M.H.C.I. student.

Details about the application process and degree requirements are on the school's website.

Journalism and Media Studies (SC&I-G)

Journalism and Media Studies

The journalism and media studies (JMS) major provides an opportunity to study print, broadcast, electronic journalism, and digital media, including law and ethics as well as media theory, with an emphasis on how the media affect individuals, social groups, and political processes in a democratic society. The major provides undergraduate students with a broad spectrum of courses in the theory and practice of journalism and media, preparing them for professional careers in magazines, the creative industries, television, newspapers, radio, web production, media management, the news agencies and wire services, publishing, and public information service in the government and private sectors. Journalism and media studies students are encouraged to take electives outside the School of Communication and Information (SC&I) to complement both their studies in the major and their career interests.

Graduates who successfully complete the program will be able to:

- *[EXPRESSION]* Write fluently, produce content, and tell stories across evolving media platforms.

- *[ANALYSIS]* Demonstrate analytical and critical thinking, formulate research questions and use appropriate methods, evaluate and use appropriate sources, identify and gather relevant data in journalism and media contexts.
- *[ETHICS]* Develop a critical understanding of the ethical standards and tensions in journalistic and media practices and institutions and apply this understanding to academic and professional activities.
- *[POWER]* Critically analyze issues of diversity, difference, social justice, and power in media in a global context.
- *[SYSTEMS]* Explain social, political, cultural, and economic dimensions of media technologies, institutions, practices, policies, and regulations.
- *[INNOVATION]* Innovate with tools and technologies appropriate for media professions.

Career Opportunities
The program offers a broad spectrum of courses in the theory and practice of journalism and media studies, preparing students for professional careers in print, broadcast, new media, advertising, and public relations and public information services in the government and private sectors. The courses focus on the practice of journalism and mass media and the impact of media on society, new technology and the media, public policy and understanding, and the planning and development of public information systems.
The JMS major also provides strong writing skills and academic preparation for students who are preprofessional for law school, M.B.A. programs, and other advanced degrees.

Admission to the Major
The Department of Journalism and Media Studies seeks a highly motivated and diverse student body. Admission to the journalism and media studies major is competitive; meeting the minimum requirements does not guarantee acceptance. Minimum requirements for admission include

- completion of at least 15 credits at Rutgers, or 15 transfer credits, with a grade-point average (GPA) of 2.0 or better;
- a grade of C or better in the required prerequisite course 04:189:102 Introduction to Media (or an equivalent transfer course);
- a grade of C or better in 01:355:101 College Writing or an equivalent course or placement; and
- completion of the application including a well-written personal statement.

The admissions committee considers the following criteria when reviewing student essays: (a) evidence of your interest in the major; (b) your future plans and their relationship to the major; (c) your strength as a writer; and (d) any other qualities that make you a strong candidate for admission to the journalism and media studies major. Applications are available on the school's website. Students may be admitted for the fall, spring, and summer semesters; check the website for application deadlines each semester. Students are strongly encouraged to consult the school's website for up-to-date information regarding admissions procedures.

Major Requirements
The major demands that students carefully formulate their program of coursework. Students should consult an adviser for guidance at least once a year.

SC&I Interdisciplinary Requirement (3 credits)
Students must fulfill an interdisciplinary requirement within the school outside of the major prior to their senior year in order to graduate:

Either
04:189:101 Introduction to Communication and Information Processes (3) or
04:189:103 Information Technology and Informatics (3)

Core Major Requirements
Several pathways in the major allow students to achieve their career goals:

Journalism and Emerging Media: Built upon the foundation of traditional media (broadcasting and print), this path offers students the opportunity to concentrate in newer journalistic pursuits such as online, social media, and citizen journalism.

Media and Society: Students study the impacts and effects of media, politics, social change, diversity, and other topics on the state, country, and world levels. This path is appropriate for students interested in a focus on media studies.

Creative Media Practice: Students learn different forms of media production, practice, and industry analysis. This path prepares students for careers emphasizing creative, managerial, and entrepreneurial media opportunities, including social media, entertainment media, and strategic communications. Students learn how to work with newer technologies and apply those skills in the ever-changing media environment. Creative media practice classes present the opportunity to analyze the role production plays in the development of media.

All JMS majors must complete 33 credits:

- 04:567:200 Writing for Media (3)
- 04:567:480 Media Ethics (3)
- 1 foundation course (3 credits) from their selected pathway
- 2 courses (6 credits) in expression, analysis, and innovation
- 2 courses (6 credits) in analysis, ethics, power, and systems; at least one of these two courses must be at the 400 level
- 12 credits of electives

Students may opt to select a specialization in sports journalism or in global media. The program offers a number of study abroad opportunities and financial aid is sometimes available to support participation.

Check the program's website for the most up-to-date list of courses and specializations.

Students may take any course in the major as an elective, including foundation courses from another track.

Students must earn a grade of C or better in all courses in order for those courses to count towards the major.

It is strongly encouraged and highly advantageous for students to pursue a second major, or at least a minor, in a subject related to the part of the field in which they are interested. Students may opt to pursue a double major or minor within the School of Communication and Information or in another program.

JMS Specializations
You can focus on specific types of media, gain dedicated skills, and extend the value of your degree by participating in one of the JMS major's specializations:

- Global Media

- Sports Journalism

Build Expertise
The JMS specializations help you develop expertise in either global media or sports journalism that can set you apart from other job applicants. Each specialization is an 18-credit program that includes theory-based and practice-based courses by leading scholars and industry professionals.

What You Need to Know

- Specializations are open to Journalism and Media Studies majors.
- Courses in a JMS specialization also count toward your major.
- Each specialization requires a total of six courses (18 credits).
- If you're using a specialization to fulfill JMS major requirements, at least 6 credits of the 18-credit specialization must be at the 400 level.
- Once in the Journalism and Media Studies major, you can declare the specialization in one of two ways:
    - SAS students: Use SASmyMajor to declare (as well as to un-declare) the specialization.
    - Non-SAS students: Visit the Major Specialization Declaration Form for Non-SAS Students to declare (or un-declare) the specialization.
- There are NO course substitutions permitted unless the Department of Journalism and Media Studies has approved a new course/special topics course for a specialization.
- On occasion, Special Topics courses are offered that may also be appropriate; check the course subtitle to learn what the course subject will be in a given semester.
- Courses already taken will count toward the specializations if they are on the approved list.
- All pre-requisites apply regarding enrolling in a course.

Internships and Other Educational Opportunities
An internship is a highly recommended capstone experience for JMS majors. Students pursue placements in major media outlets throughout the New Jersey, New York, and Philadelphia markets.

The department internship coordinator assists students in finding an internship. Students must qualify, receive permission, and then register for either the 3-credit or 6-credit internship. To qualify, a student must be a major who completed a minimum of 75 overall credits and five journalism (567) courses, at least three of which must be skills courses; have an overall GPA of 2.5 or better; and have a 2.75 GPA or better in the major. JMS students are not allowed to take both the 3 and 6 credit internship in the same semester.

Course Transfers
A maximum of 6 credits from outside the JMS program may be counted toward the major. A maximum of 3 transfer credits (or one course) may be applied to the conceptual requirement and a maximum of 3 transfer credits (or one course) may be applied to the skills requirement.

Courses that students have taken at other New Jersey colleges, which are articulated through the NJ Transfer system and recorded on a student's transcript with a JMS course number, will be counted toward the major. However, such courses do count as transfer courses to the major and therefore a maximum of 6 credits may be applied to the major.

Students who wish to have a course they have taken elsewhere at Rutgers or externally at another university considered as one of their required or elective courses in the journalism and media studies major must submit a request for transfer equivalency in writing to the Office of Student Services. To submit such a request, the letter of petition must include a copy of the full syllabus of the course, a copy of the student's transcript showing the grade achieved, note which JMS course it is requested to replace, and the reasons for consideration. The courses are evaluated in terms of their very close match of content and skills to the JMS course, the level of the course, and the grade achieved, which should typically be a B or better. Students will be notified in writing of the outcome of the petition.

Dual-Bachelor's/Master's Degree Programs for Journalism and Media Studies Majors
JMS majors in their junior or senior year may apply to the master's program in communication and media (M.C.M.) for a dual-B.A./M.C.M. program or the master's program in health communication and information (MHCI) for a dual-B.A./M.H.C.I program. Each dual-degree program allows completion of both degrees in as few as five years. If accepted, certain journalism and media studies courses taken in the senior year will count toward both the undergraduate degree and the master's. Once the bachelor's degree is completed, students will be in the master's program and complete requirements.

Admission requirements are the same as for all M.C.M. and M.H.C.I. applicants. Details about the application process and degree requirements are on the school's website.

Digital Communication, Information, and Media (SC&I-G)

Digital Communication, Information, and Media

The 18-credit digital communication, information, and media (DCIM) minor is open to all majors at Rutgers. This program prepares students to succeed in a diverse range of work environments through a combination of technical, analytical, interpersonal, and entrepreneurial skill sets. The DCIM program concludes with a capstone course that puts students in the driver's seat, defining and creating a project for their professional portfolio that they can use to launch their (next) career. The DCIM minor complements any major at Rutgers; capstone projects can extend a student's particular interest in a major field of study, or take students in an entirely new direction. Courses are offered in online and hybrid formats (part of the course conducted in person and part of the course conducted online).

At the end of this program, students are able to:

- critically read, interpret, synthesize, and evaluate online information from a variety of media sources and effectively articulate an analysis and formulate opinions on the relevant topics;
- assess the influence of virtual environments on interpersonal and group interactions;
- identify communication opportunities and challenges when working with others in digital and virtual environments;
- successfully participate and enhance collaborative working relationships in virtual environments; and
- select and apply appropriate digital tools and media and design messages in order to communicate, persuade, and build relationships with stakeholders distributed across space, time, and cultures.

Career Development

Whether students are looking to enter the corporate, not-for-profit, or government sectors, whether in the life sciences, social services, business, or other fields, the DCIM program will enhance career possibilities by showing employers that they have proficiency in skills needed in all 21st-century workplaces.

Declaration of the Minor

Students may declare the minor after completing any DCIM course with a grade of C or better. For students in several Rutgers four-year schools, the declaration process is online; others can use a form on the School of Communication and Information (SC&I) website and submit it to the SC&I Student Services Office (SC&I Building, Rm 214). This form is available online.

Requirements

Students must take six courses (18 credits) in the program to complete the minor:

Required:

- 04:189:151 Virtual Team Dynamics (3)
- 04:189:152 The Structure of Information (3)
- 04:189:251 Strategic Presentation Methods in Digital Media (3)
- 04:189:351 Leadership in Digital Contexts (3)

  Choose one of these two:
- 04:189:352 Self and Society in Virtual Contexts (3)
- 04:189:353 Digital Technology and Disruptive Change (3)

  Required:
- 04:189:451 Capstone in Digital Communication, Information, and Media (3)

Students must earn a grade of C or better in 04:189 courses in order for those courses to count toward the minor. Courses can be double-counted for the digital communication, information, and media minor and for any other major or minor at the School of Communication and Information.

Course Transfers

Only 100- and 200-level courses that transfer to Rutgers as a substitute for courses in the minor may be applied to the program.

Gender and Media (SC&I-G)

Gender and Media

Complementing any major, the gender and media minor is a cross-unit, interdisciplinary undergraduate minor offered jointly by the School of Communication and Information and the School of Arts and Sciences' Women's, Gender, and Sexuality Studies (WGSS) program. Students are introduced to the minor through a foundational course that offers a shared vocabulary for analyzing issues of power and representation within the media. Students then have the choice of taking two electives in media production, as well as two electives in critical media/feminist theory. At the end of the program, students apply skills and knowledge of gender and the media in the completion of a project in a capstone course that offers internship, service learning, and multimedia project options.

Program-Level Learning Goals

The gender and media minor provides a course of study designed for students interested in a combination of theory and practice perspectives on the representation and production of gender in the media.

- Students will apply technical skills as media producers with the ability to add their own critical voices and unique perspectives.
- Students will also demonstrate critical thinking skills that enable them to critique and improve current conditions of media production and consumption.
- Students will articulate, create, examine, inform, and improve systemic and individual power dynamics of the contemporary landscape for gender and media.

Requirements

The minor is open to all majors at Rutgers. Students are required to complete six 3-credit courses with a grade of C or better, for a total of 18 credits. There is one foundational course, two practice/production courses, two conceptual courses, and a capstone project course. Students are strongly encouraged to speak with an adviser to create a plan for completing the program.

Note that courses taken to fulfill requirements in the gender and media minor **will count** toward the requirements of any other major or minor in the School of Communication and Information or in the Program in Women's, Gender, and Sexuality Studies.

Foundation Course (3 credits/one course)

Choose one of the following foundational courses:

- 01:988:202 Gender, Culture, and Representation (3)
- 04:567:215 Gender, Race, and Class in the Media (3)

Practice/Production Courses (6 credits/two courses)

The first practice/production course is required:

- 01:988:200 Gender, Digital Media, and Social Curation (3)

Choose one of the following courses for the second course:

- 04:189:251 Strategic Presentation Methods in Digital Media (3)
- 04:567:200 Writing for Media (3)

Conceptual Courses (6 credits/two courses)

Only one of these courses (3 of the 6 credits) may be taken at the 200 level; the other must be taken as a 300 level.

Choose one of the following for the first conceptual course (School of Communication and Information courses):

- 04:567:274 Consumer Media Culture (3)
- 04:567:380 Media and Social Change (3)
- 04:547:340 Gender and Technology (3)

- Relevant special topics courses from SC&I

Choose one of the following for the second conceptual course (women's, gender, and sexuality studies courses):

- 01:988:255 Gender, Art, and Society (3)
- 01:988:257 Gender and the Body: Representations of Pornography (3)
- 01:988:258 Gender, Race, and Contemporary Art (3)
- 01:988:259 Homosexuality and Visual Culture (3)
- 01:988:317 Gender and Consumption (3)
- 01:988:376 Theories of Women and Film (3)
- 01:988:341 Gender and Popular Culture (3)
- 3 Relevant special topics courses (women's, gender, and sexuality studies)

Capstone Course (3 credits/one course)

Students may enroll in the capstone after completing a minimum of 12 credits in the minor. Choose one of the following courses to fulfill the capstone requirement:

- 01:988:499 Capstone in Gender and Media (course within the women's, gender, and sexuality studies program)
- 04:567:499 Capstone in Gender and Media (course within the journalism and media studies progr

Other Programs of Study and Opportunities (SC&I-G)

Other Programs of Study and Opportunities

The School of Communication and Information (SC&I) regularly offers new specializations in the majors and new minors and other educational opportunities. For the most up-to-date listing, visit the school's website.

Study Abroad

Students in a SC&I major are encouraged to take advantage of the Study Abroad option offered by Rutgers University. In conjunction with advising staff from the student's four-year school, the advising staff at SC&I will assist students in planning a program of study at an international university to maximize completion of degree requirements as well as provide an enriching experience.

Undergraduate Courses (SC&I-G)

UNDERGRADUATE COURSES

Explanation of Three-Part Course Numbers

Communication and Information 189 Courses

Communication 192 Courses

Information Technology and Informatics 547 Courses

Journalism and Media Studies 567 Courses

Digital Communication, Information, and Media 189 Courses

Gender and Media 438 Courses

Explanation of Three-Part Course Numbers (SC&I-G)

EXPLANATION OF THREE-PART COURSE NUMBERS

The number preceding each course title is divided into three parts. The first two digits are the administrative code (standing for a faculty or a school), the next three digits are the subject code, and the final three digits are the course code.

Administrative Codes

The code for School of Communication and Information undergraduate programs is 04. For a complete list of administrative codes used in this catalog, see the beginning of the Programs of Study and Courses for Liberal Arts and Sciences Students section.

Subject Codes

A subject code comprises the third through fifth digits in all course numbers and indicates the subject matter of the course. Courses with the following subject codes are listed in this chapter (this does not constitute a list of majors).

189 Communication and Information (this includes courses in the Digital Communication, Information, and Media program)

192 Communication

547 Information Technology and Informatics

567 Journalism and Media Studies

Course Codes

The course code comprises the sixth, seventh, and eighth digits in all course numbers. Course codes from 100 to 299 indicate introductory and intermediate undergraduate courses. Codes from 300 to 499 indicate advanced undergraduate courses. Courses coded from 500 to 799 are graduate courses.

Two course codes separated by a comma indicate that each semester may be taken independently of the other (example: 04:189: 493,494). Two course codes separated by a hyphen indicate that satisfactory completion of the first semester is a prerequisite for the second semester; the first semester may be taken for credit without taking the second, except where a statement is added to indicate that both semester courses must be completed in order to receive credit.

Credits awarded for the successful completion of each course are indicated in parentheses following the course title. The notation BA indicates that the number of credits is determined by arrangement with the department offering the course.

Communication and Information 189 Courses (SC&I-U)

Communication and Information 189 Courses

04:189:101 ***Introduction to Communication and Information Processes (3)***
Survey of the field of communication: interpersonal, group, organizational, speech, mass, intercultural, and international communication; public relations and advertising.

04:189:102 ***Introduction to Media (3)***
Historical development of mass media institutions and the role of media in society. Particular attention to news, government regulation, effects, economics, emerging technologies, and audience dynamics.

04:189:103 ***Information Technology and Informatics (3)***
An overview of the key theoretical and professional themes. Theoretical emphasis is placed on social informatics; human-computer interaction; management of information technology; the relationship between technology, race, and gender; and information intelligence. Practical emphasis is placed on the effective and ethical use of information technologies including the World Wide Web in organizations, and on the development of critical thinking and problem-solving skills appropriate for the workplace. This course provides an understanding of the concepts, culture, and underpinnings of the professions that encompass information technology and informatics in society today.
This course fulfills the SAS Permanent Core Curriculum learning goal I.c.: 21st-century challenge: analyze the relationship that science and technology have to a contemporary social issue.

04:189:151 ***Virtual Team Dynamics (3)***
Students learn to understand and navigate the dynamics of the modern technology-infused workplace in which the ability to apply well-developed communication, writing, and technological skills/competencies in virtual settings is vital. The course takes a multi-disciplinary approach to these topics, blending insights from multiple disciplines including communication, psychology, sociology, business, and human resources management.
This course counts toward the digital communication, information, and media minor.

04:189:152 ***The Structure of Information (3)***
Through the lens of different media such as newspaper articles, blogs, Wikipedia entries, social media posts, and news programs, students examine and judge the quality of information presented, analyze the economic and cultural factors that affect the availability and reliability of electronic information, and compare and contrast with other sources. After this exploration of information searching and evaluation, the class will address how information is organized and attributed.
This course counts toward the digital communication, information, and media minor. SAS Core Learning Goals met by this course: WCd: Communicate effectively in modes appropriate to a discipline or area of inquiry; evaluate and critically assess sources and use the conventions of attribution and citation correctly; and analyze and synthesize information and ideas from multiple sources to generate new insight. ITR-z: Students will be able to analyze and critically assess information from traditional and emergent technologies.

04:189:196 ***(F) School of Communication and Information Learning Community I (1.5)***
Explores School of Communication and Information learning community themes through readings, weekly discussions, lectures, and interactions with faculty and visiting scholars. Students will develop and present research

and/or action projects. Enrollment is limited to, and required of, participants in school learning communities. Students participating in different learning communities will register for particular sections of the class.
04:189:196 is a fall class with enrollment by special permission only.

04:189:197 ***(S) School of Communication and Information Learning Community II (1.5)***
Explores School of Communication and Information learning community themes through readings, weekly discussions, lectures, and interactions with faculty and visiting scholars. Students will develop and present research and/or action projects. Enrollment is limited to, and required of, participants in school learning communities. Students participating in different learning communities will register for particular sections of the class.
04:189:197 is a spring class with enrollment by special permission only.

04:189:210 ***Disinformation Detox: Communication, Media and Information Studies Approaches to Mis- and Dis-Information (3)***
Dis- and misinformation have toxic implications for the wellbeing of individuals, groups, and societies. As interconnected producers and consumers of information we bring our own cognitive biases and beliefs, and frequently find ourselves questioning what information sources to trust. This course draws on interdisciplinary perspectives from communication, media, and information studies to explore ways to understand, navigate, and thrive in a polluted ecology of digital social systems. Through active coursework, students will learn to engage in these systems as aware, empowered, and responsible communicators and information agents.

04:189:215 ***Social Responsibility and Community Wellness (3)***
Examines intellectual, practical, and relational challenges faced in efforts to alleviate social disparities and risks to the quality of life that result from social choices and actions through required cross-disciplinary lectures and readings, service learning, and online peer collaborative learning.

04:189:220 ***Data in Context (4)***
This course introduces students to the interplay between data and its surrounding societal context. It will cover the basics of data science, focusing on the ethical, legal, and social implications of data and algorithms. Students will learn to conceptualize and evaluate practical applications of data science in communication, information, and media contexts.

04:189:251 ***Strategic Presentation Methods in Digital Media (3)***
This course examines theories and techniques for analyzing, producing, and disseminating messages. Students will learn how to use web-based and multimedia presentation tools to connect with a variety of audiences and convey a desired message. Each student will craft a message to support some social change by developing and shaping the message into compelling digital media presentations in a range of formats.
This course counts toward the digital communication, information, and media minor. SAS Core Learning Goals met by this course: WCd: Communicate effectively in modes appropriate to a discipline or area of inquiry; evaluate and critically assess sources and use the conventions of attribution and citation correctly; and analyze and synthesize information and ideas from multiple sources to generate new insight. ITR-z: Students will be able to analyze and critically assess information from traditional and emergent technologies.

04:189:351 ***Leadership in Digital Contexts (3)***
Students will use a variety of exercises and scenarios to employ creativity and innovation in problem solving, weigh risk, perform leadership and management roles with peers, and grapple with the consequences of making and implementing decisions in digital environments. Students will learn how to assess and select among various technologies for making and disseminating decisions. This course presents a framework for understanding the

role of technology in leadership functions including planning, information dissemination, consensus building, negotiation and engagement with stakeholders for informed and participative decision-making in online and virtual settings.
This course counts toward the digital communication, information, and media minor. Prerequisites: 04:189:151 or 152; 04:189:251.

04:189:352 ***Self and Society in Virtual Contexts (3)***
Students explore what it means to have multiple and merging "identities" in an online community. How are interpersonal relationships and group interactions manifested in virtual environments? How are identity and selfhood expressed? What is the impact on communication when gender, race, and other physical attributes are self-selected and represented digitally? What are the implications for privacy and security? What does this mean for the workplace? What do "human rights" mean in a virtual society and is citizenship changed with purely online interaction? Students will evaluate the consequences of a digital context on the self and society
This course counts toward the digital communication, information, and media minor.

04:189:353 ***Digital Technology and Disruptive Change (3)***
This course explores whether and how emerging digital technologies--such as social, mobile, and wearable media; virtual worlds and games; sensor-laden devices and environments; robotics; drones; implantable chips; artificial intelligence--contribute to disruptive changes in relationships, organizations, societies, and selves. Multiple perspectives on communication, information, and media will be applied in analyzing the extent to which the structure, norms, and dynamics of modern social life have changed and have experienced continuity and the conditions under which such changes can be considered disruptive. Micro- and macro-level processes and outcomes (interpersonal, cultural, political, global) of emerging digital technologies will be examined.
This course counts toward the digital communication, information, and media minor. SAS Core Learning Goals met by this course: CCO: Contemporary Challenges (CCO) Analyze the relationship that science and technology have to a contemporary social issue. ITR-z: Students will be able to analyze and critically assess information from traditional and emergent technologies.

04:189:396 ***(F) School of Communication and Information Learning Community III (1.5)***
Explores School of Communication and Information learning community themes through readings, weekly discussions, lectures, and interactions with faculty and visiting scholars. Students will develop and present research and/or action projects. Enrollment is limited to, and required of, participants in school learning communities. Students participating in different learning communities will register for particular sections of the class.
04:189:396 is an advanced fall class, primarily for juniors and seniors, with enrollment by special permission only.

04:189:397 ***(S) School of Communication and Information Learning Community IV (1.5)***
Explores School of Communication and Information learning community themes through readings, weekly discussions, lectures, and interactions with faculty and visiting scholars. Students will develop and present research and/or action projects. Enrollment is limited to, and required of, participants in school learning communities. Students participating in different learning communities will register for particular sections of the class.
04:189:397 is an advanced spring class, primarily for juniors and seniors, with enrollment by special permission only.

04:189:398 ***Special Topics in Communication and Information (3)***
Special topics classes may be offered by the School of Communication and Information that are of interest to all undergraduates in the school. A recent special topics class offered was Event Management and Design.

04:189:399 ***Service Learning Internship (1)***
A 1-credit service learning internship may be added to particular undergraduate courses in the school to allow students to add a service learning experience to a course. Contact the undergraduate program director of the major or minor for details.

Prerequisites: Must register for the associated SC&I course in the same semester.

04:189:441 ***Communication and Human Values (3)***
Seminar on communication and human values in a democratic society. Emphasis on the concept of cultural democracy in the formulation of public policy; historical evaluation of the philosophical problems related to matters of private taste versus public good.
Prerequisite: Permission of instructor. Course not offered on a regular basis. Open only to seniors and graduate students

04:189:451 ***Capstone in Digital Communication, Information, and Media (3)***
The capstone course is designed to facilitate students' synthesis of what they have learned in the program, through a directed project. Students will first work together in class to identify and refine projects or areas of research to complete. Capstone project presentations will be captured digitally for feedback from the larger community. Capstone projects may be done individually or in pairs. Projects will contribute to the students' websites; a portion of this class will include preparation of a website of material from the minor.
This course counts toward the digital communication, information, and media (DCIM) minor. Prerequisites: Completion of at least 15 credits within the minor, or completion of 12 credits and concurrent enrollment in one other DCIM course. The capstone is open only to declared DCIM students.

04:189:490 ***Senior Honors Seminar (3)***
For students admitted to the honors program.

Prerequisites: Permission of the department.

Communication 192 Courses (SC&I-U)

COMMUNICATION 192 COURSES

04:192:120 ***Beginning American Sign Language (3)***
Beginning skills in American Sign Language (ASL) and skills needed in communication with deaf persons.
Offered only during Summer Sessions. Does not count toward the major.

04:192:121 ***Intermediate American Sign Language (3)***
Beginning skills in American Sign Language (ASL) and skills needed in communication with deaf persons.
Prerequisite: 04:192:120 or equivalent course, or permission of the instructor. Offered only during Summer. Does not count toward the major.

04:192:200 ***Communication Theory (3)***
Basic concepts, models, and theories examining the role of communication in human behavior.
Prerequisite: 04:189:101.

04:192:201 ***Communication in Relationships (3)***
Patterns of human interaction, types and stages of relationships, verbal and nonverbal exchanges, and strategies and tactics.
Prerequisite: 04:189:101.

04:192:211 ***Parliamentary Debate Practicum (1)***
This course will explore the nature of persuasive argumentation as applied through the specific lens of parliamentary-style debating.

04:192:220 ***Fundamentals of Public Speaking (3)***
Development of effective oral presentation and participation skills in interpersonal, small group, organizational and public settings. Particular attention is given to issues of diversity and multiculturalism in presentation and participation.
Prerequisite: Limited to noncommunication majors. Does not count toward the major.

04:192:300 ***Communication Research (3)***
Exploration of the uses of experimental, descriptive, historical-critical, and field research approaches to the study of communication.
Prerequisite: 04:189:101.

04:192:301 ***Community Communication (3)***
This course examines types and qualities of civic infrastructure, civic engagement, and community leadership. Students are introduced to the methods and nature of community communication in varied contexts.

04:192:305 ***Introduction to Social Media (3)***
Social media platforms such as Facebook and Twitter represent a new class of communication platforms that have become quickly interwoven into the everyday lives of millions of people around the world. In this course we will draw on competing communication perspectives to explore the reasons behind the widespread popularity of these platforms. In doing so we will consider the role of individual choice, social influence, technological influence, and how these three perspectives can be combined. We will further explore the implications of social media for personal relationships, youth culture, organizations, social research, and personal privacy.

04:192:306 ***Social Network Analysis (3)***

Social networks are a core part of our lives. We are embedded in networks of friendship, support, and communication -- as well as in organizational, industry, and technological networks. This course explores the emergence and impact of networks, with a focus on understanding and analyzing their structure. Students will learn the fundamentals of network theory and social network analysis, gaining tools to critically evaluate social structures. The class will examine how social connections shape human behavior, success, and creativity.

04:192:307 ***Health Literacy (3)***
This class focuses on applying literacy principles to real-life health phenomenon, in clinical encounters, as well as in community and public health contexts with an emphasis on medically underserved and vulnerable populations.
Prerequisite: 04:192:200.

04:192:313 ***Message Design for Public Relations and Organizational Communication (3)***
Theories and techniques for collecting, selecting, packaging, and disseminating information within organizations and between organizations and their constituencies.
Prerequisites: 04:189:101; 04:192:200; 04:192:365.

04:192:315 ***Professional Writing and Communication (3)***
Analyzing and applying writing skills, techniques, design, and strategies to communication topics and processes. There are separate sections for research in the disciplines (popular culture, the family, globalization, technology, and society), writing for business and professions, and collaborative writing.
Prerequisites: 04:189:101; 04:192:200.

04:192:333 ***Political Communication (3)***
This course provides an overview of the field of political communication. Accordingly, we will analyze the role of advertising, polling, media coverage, image construction, and ethics in political campaigns through a historical and case study perspective. We will also discuss the role of current communication theories and their effects on contemporary political messages. We will focus specifically on the communication dynamics of political campaigns.
Prerequisites: 04:189:101; 04:189:102 or 103; 04:192:200; 04:192:201. Open only to communication majors. Note: This course fulfills a requirement for the leadership in organizations and community specialization within the communication major.

04:192:344 ***Language and Communication (3)***
Sociolinguistics, psycholinguistics, language acquisition and development, phonetics, and issues of bilingualism.
Prerequisites: 04:189:101; 04:192:200.

04:192:346 ***Intercultural Communication (3)***
Process of communication among individuals from different cultures or subcultures; influence of value orientations, concepts of time, thought patterns, and nonverbal styles.
Prerequisites: 04:189:101; 04:192:200.

04:192:347 ***Information Systems and Communication (3)***
Generation, classification, storage, retrieval, and use of information in human communication systems.
Prerequisites: 04:189:101; 04:192:200.

04:192:350 ***Visual Communication (3)***
Critical evaluation of the aesthetic and social impacts of visual communication.
Prerequisites: 04:189:101; 04:192:200.

04:192:354 ***Communication and Technology (3)***
Provides an overview of communication theory and research related to the use of a range of communication technologies in a variety of interpersonal, group, and societal contexts.
Prerequisites: 04:189:101; 04:192:200. Open only to communication majors.

04:192:355 ***Interpersonal Communication (3)***
Critical examination of the theory and research concerning the dimensions, dynamics, and functions of interpersonal interaction.
Prerequisites: 04:189:101; 04:192:200.

04:192:356 ***Group Communication (3)***
Principles of group communication, types of groups, group structure, leadership, and membership roles; techniques for working with groups.
Prerequisites: 04:189:101; 04:192:200.

04:192:357 ***Organizational Communication (3)***
Communication in organizations, communication networks, management and communication, decision-making, goal setting, and process consultation in varying organizational settings.
Prerequisites: 04:189:101; 04:192:200.

04:192:359 ***Persuasive Communication (3)***
Principles and techniques in persuasive communication: credibility, audience analysis, assessment of effects, media selection, resistance to persuasion, and attitude change.
Prerequisites: 04:189:101; 04:192:200.

04:192:360 ***Principles of Interviewing (3)***
Analysis of the interview as a unique communication context, including the application of theoretical concepts and practice in designing and conducting interviews of various types (e.g., surveys, employment, information giving, counseling).
Prerequisites: 04:189:101; 04:192:200.

04:192:365 ***Principles of Public Relations (3)***
Basic principles and policies of public relations and advertising; includes history, development, ethics, roles, functions, media selection methods, and message strategies of public relations.
Prerequisites: 04:189:101; 04:192:200.

04:192:366 ***Organizational Reputation and Representation (3)***
Organizations represent themselves to various stakeholder groups, both inside the organization and within the environment. In doing so, organizations encounter issues of reputation and identity. Combining theoretical foundations and a case study approach, this course will examine these issues critically and analytically.
Prerequisites: 04:189:101; 04:192:200. Only open to communication majors.

04:192:369 ***Internship in Communication I (3)***
Practical field experience in intercultural, international, interpersonal, group, organizational, or mass communication; or public relations and advertising.
Prerequisites: 04:189:101; 04:192:200; and permission of instructor. Open only by application to communication majors accepted to the School of Communication and Information.

04:192:370 ***Internship in Communication II (1-3)***
Continued practical field experience.
Prerequisites: 04:192:369 and permission of instructor. Open only by application to communication majors accepted to the School of Communication and Information. Does not count toward the major.

04:192:372, 373, 374, 375 ***Topics in Communication I, II, III, IV (3,3,3,3)***
Topical seminars dealing with issues of concern to contemporary communication studies.
Prerequisites are minimally 04:189:101, 04:189:200, 04:189:300, Open to communication majors only . Other prerequisites may vary with each offering.

04:192:380 ***Public Speaking (3)***
Principles of public speaking; practice in composition, delivery, and criticism of informative, persuasive, and entertaining speeches.

04:192:381 ***Argumentation (3)***
Principles and techniques of persuasion through argument, evidence, and logical inference.
Prerequisites: 04:189:101; 04:192:200.

04:192:382 ***Children and Media (3)***
This course examines children's and adolescent's interactions with media and technology and their influence on communication and social development.

04:192:383 ***Advanced Public Speaking (3)***
This workshop-based course aims to enhance students' current oral communication skills in a variety of real-life scenarios (personal and professional) with a focus on civic engagement.

Prerequisites: 04:192:380

04:192:390 ***Approaches to Leadership (3)***
Provides a multidisciplinary and collaborative environment focused on leadership theory and current practice in public and private sector organizations through a communication lens. Leadership models will be analyzed and evaluated for effectiveness from a variety of perspectives providing opportunities to gain a greater understanding of theories, concepts, models, and approaches of leadership in diverse contexts (personal, team, group, organization, community, etc.).
Prerequisites: 04:189:101; 04:192:200.

04:192:403 ***Conflict Negotiation and Resolution (3)***
This course examines features of interpersonal conflict situations, explores individual conflict styles, and identifies strategies for managing or resolving interpersonal conflict.
Prerequisites: 04:189:101, 04:192:200, 04:192:300. Open only to communication majors.

04:192:404 ***Communicating about Relationship Challenges (3)***
Examines the role of interpersonal communication in managing a variety of challenging events in friendships, romantic relationships, and family relationships, such as hurt, conflict, jealousy, negotiating sexual intimacy, terminating relationships, etc.
Prerequisites: 04:189:101, 04:192:200, 04:192:300. Open only to communication majors.

04:192:405 ***Communication and Gender (3)***
Effects of gender roles in various communication contexts; examination of literature and research on differences between male and female patterns of interaction.
Prerequisites: 04:189:101; 04:192:200, 201, 300. Open only to communication majors.

04:192:406 ***Relationships and Identities in Interaction (3)***
Examines how relationships and identities are constructed in communication. Focuses on specific practices of interaction--the basic building blocks for communication--to discover those practices through which communicators build their actions and sometimes thereby, their relationships and identities.
Prerequisites: 04:189:101, 04:192:200, 04:192:300. Open only to communication majors.

04:192:407 ***Health Communication (3)***
Exploration of communication demands of health care and the development of effective communication strategies and skills for use in health care practice.
Prerequisites: 04:189:101; 04:192:200, 04:192:201, 04:192:300. Open only to communication majors.

04:192:408 ***Health Message and Campaign Design (3)***
Design, implementation, and evaluation of public communication campaigns designed to change health behavior of individuals, groups, and entire populations.
Prerequisites: 04:189:101, 04:192:200, 04:192:201, 04:192:300. Open only to communication majors.

04:192:409 ***Public Relations Management (3)***
Analysis and preparation of case studies in industry, labor, education, government, and trade organizations, and the application of public relations techniques.
Prerequisites: 04:189:101; 04:192:200, 04:192:201, 04:192:300, 04:192:365. Open only to communication majors.

04:192:410 ***Media, Marketing, and Communication***
This course links communication theory to the practice of marketing and media planning. Students work to analyze current trends in media and marketing while applying skills learned in previous communication courses.
Prerequisites: 04:189:101; 04:192:200, 04:192:201, 04:192:300. Open only to communication majors.

04:192:411 ***Crisis Communication and Public Information (3)***
Examines the processes through which organizations handle and disseminate information to the public with a specific emphasis on crisis communication.
Prerequisites: 04:189:101; 04:192:200; 04:192:201; 04:192:300; and either 04:189:102 or 04:189:103.

04:192:412 ***Communication and Management in Media Organizations (3)***
This course introduces students to the organizational structure of media and advertising organizations and focuses on the central role of communication particular to media and advertising. The course is designed to expose students to core concepts and principles of organizational theory as they apply to these organizations. Students will learn how to navigate modern media and advertising organizations in the current technological landscape.
Prerequisites: 04:189:101; 04:192:200; 04:192:201; 04:192:300

04:192:422 ***Communication and Facilitation (3)***
Theory and pragmatics of intrapersonal, interpersonal, and small-group process analysis, intervention, and facilitation.
Prerequisites: 04:189:101, 04:192:200, 04:192:201, 04:192:300. Open only to communication majors.

04:192:432 ***Communication, Technology, and Society (3)***
This course analyzes communication technologies, their consequences for society and individuals, and the social forces that affect their form and function. It critically examines the impact of communication technology on society through in-depth seminars and independent research.
Prerequisites: 04:189:101, 04:192:200, 04:192:201, 04:192:300. Open only to communication majors.

04:192:442 ***Supportive Communication (3)***
This course features critical exploration of the theory and research regarding personal and community experiences of social support, its influences on interpersonal relationships and health, and its social functions.
Prerequisites: 04:189:101, 04:192:200, 04:192:201, 04:192:300. Open only to communication majors.

04:192:443 ***Nonverbal Communication (3)***
Nonverbal aspects of human communication, including proxemics, kinesics, vocalics, eye behavior, human artifacts, and environments; the functions served by nonverbal behavior in interaction.
Prerequisites: 04:189:101, and 04:189:102 or 04:189:103; or 04:192:200, 04:189:201, 04:189:300. Open only to communication majors.

04:192:444 ***Language, Behavior, and Communication (3)***
Sociolinguistic, psycholinguistic, and general semantic analysis of language as a component of human communication systems.
Prerequisites: 04:189:101, and 102 or 103; 04:192:200, 201, 300. Open only to communication majors.

04:192:446 ***Communication and Social Change (3)***
Role of communication in social change, diffusion of innovations, and national development.
Prerequisites: 04:189:101, and 04:189:102 or 04:189:103; 04:192:200, 04:189:201, 04:189:300. Open only to communication majors.

04:192:447 ***Urban Communication (3)***

Urban communication addresses the ways individuals, institutions, and information communication technology use organize urban life. This course helps students appreciate the city as a communication environment with its own communicative practices and processes, as well as variations in urban communication related to geography, culture, inequality, and other factors. Students will learn how contemporary urban issues can be understood and addressed through communication and will practice doing urban communication research.

Prerequisites: 04:192:200, and 04:192:300. Open only to communication majors.

04:192:450 ***The Dark Side of Organizations (3)***
This course takes a communication-based approach to key workplace processes that operate in the shadows (e.g., violence, wrongdoing, harassment) and what are called hidden organizations (e.g., terrorist cells, informal economy, secret societies).

04:192:458 ***Leadership in Groups and Organizations (3)***
Examines leadership from a communicative perspective, integrating theory and practice. Combines traditional informational components of university courses with experiential learning activities, such as interactive simulations, exercises, case studies, and an organizational simulation.
Prerequisites: 04:189:101, 04:192:200, 04:192:201, 04:192: 300. Open only to communication majors.

04:192:459 ***Patient-Provider Communication in Health Care (3)***
This class explores facets of patient-provider communication and their impact on patient and provider satisfaction and health outcomes.
Prerequisites: 04:189:101; 04:192:200, 04:192:300. Open only to communication majors.

04:192:460 ***Advanced Health Communication (3)***
Application of principles and techniques in a targeted health communication campaign; social norms theory, experiential learning theories, effects of misperceptions on behavior, and needs of special student populations.
Prerequisites: 04:189:101; 04:192:200, 04:192:201, 04:192:300; and either 04:189:102 or 04:189:103. Open only to communication majors.

04:192:466 ***Audience and Market Analysis (3)***
Covers principles and methods of identifying, categorizing, and segmenting mass audiences. The more specifically a public relations or marketing/communications professional identifies targets by demographic or other means, the easier it is to find communication strategies and tactics that will reach those targets. The course will enable students to define his/her target audience, how to expose hot buttons for copy content and style, SEO/SEM keywords, hook development, and more
Prerequisites: 04:189:101; 04:192:200, 04:192:201, 04:192:300. Open only to communication majors.

04:192:470 ***Research in Communication (3)***
Research projects conducted under the direction of individual faculty members. Requires application.
Prerequisites: **04:189:101, 04:192:200, 04:192:201, 04:192:300*****; faculty sponsor; and approval of chair. Open only by application to communication majors.***

04:192:472, 473, 474, 475, 477 ***Topics in Communication V, VI, VII, VIII, IX (3,3,3,3,3)***
Advanced topical seminars dealing with issues of concern to contemporary communication studies.
Prerequisites: 0**04:189:101, 04:192:200, 04:192:201, 04:192:300*****. *Open only to communication majors. Other prerequisites may apply depending upon the offering.***

04:192:476 ***Advanced Communication Theory (3)***
Issues in theory building in the field of communication.
Prerequisites: **04:189:101, 04:192:200, 04:192:201, 04:192:300*****. Open only to Senior communication majors.***

04:192:478 ***Family Communication (3)***
Family communication theory, research, and practice. Includes assessment and measurement of interaction patterns, pathologies, and intervention strategies.
Prerequisites: **04:189:101, 04:192:200, 04:192:201, 04:192:300*****. Open only to communication majors.***

04:192:481 ***Advanced Research (3)***
Research trends in current literature in interpersonal, group, organizational, mass, and intercultural communication, and in public relations and advertising.
Prerequisites: **04:189:101, 04:192:200, 04:192:201, 04:192:300*****. Open only to communication majors by permission of the instructor.***

04:192:491,492 ***Independent Study in Communication (3,3)***
Independent study projects in communication.
Prerequisites: **04:189:101, 04:192:200, 04:192:201, 04:192:300*****. Faculty sponsor and approval of chair. Open only by application to communication majors. Does not count toward major.***

04:192:493 ***Senior Thesis Independent Project I (1-3)***
Prerequisites:**04:189:101, 04:192:200, 04:192:201, 04:192:300*****. *Open only by application to communication majors.***

04:192:494 ***Senior Thesis Independent Project II (1-3)***
Prerequisite: **04:189:101, 04:192:200, 04:192:201, 04:192:300*****. Open only by application to communication majors.***

04:192:495 ***Applied Study in Communication (3)***
Supervised study in communication pedagogy.
Prerequisites: 04:189:101, 102; 04:192:200, 201, 300. Open only by application to communication majors. Reserved for tutors. Does not count toward major.

Information Technology and Informatics 547 Courses (SC&I-U)

Information Technology and Informatics 547 Courses

04:547:111 ***The Internet and the Information Environment: A Quantitative Approach (3)***
A quantitative and mathematically rigorous introduction to concepts that underlie the internet and web search engines. A challenging problem will introduce each topic, and the exposition of principles and relevant theorems will be followed by an application to the internet and at least one other application in the social sciences (e.g., social networks) or the humanities (e.g., author identification). **The course counts as one of the two mathematics courses that must be taken in order to meet the Rutgers graduation requirements in quantitative reasoning.**

04:547:200 ***Social Informatics (3)***
This course provides a survey of the key social issues related to information technology development, decision-making and use. Its focus is on the critical analysis of social, cultural, philosophical, ethical, legal, public policy and economic issues relating to information technologies, and how these interactions shape workplace decisions and technology use.
Prerequisite: 04:189:103 with a grade of C or better. Some sections open only to ITI majors.

04:547:201 ***Information Technology Fundamentals (3)***
As the introductory course to the technological concentration/area in the ITI program, Introduction to Computer Concepts explains the basic principles of computer systems and applications. It covers the basic mathematical-theoretical principles that govern the functioning of computers, the architecture and organization of computer systems, the role of hardware and software, and the role of creative thinking and problem solving in building software applications.
Prerequisite: 04:189:103 with a grade of C or better. Some sections open only to ITI majors.

04:547:202 ***Object-Oriented Programming (3)***Introduces students to the principles of object-oriented analysis, design, and programming. The focus is on developing creative thinking for analyzing a problem domain and designing a solution, and on using the Java programming language (or other appropriate programming language) to implement it.
Prerequisite: 04:547:201. Open only to ITI majors.

04:547:210 ***Designing Human-Centered Technology Solutions (3)***
This course focuses on the relationship among information, technology, and people in an applied context. Students will learn to define design-problem spaces, represent the problem, and suggest sociotechnical solutions.
Prerequisite: 04:547:201.

04:547:215 ***Social Impacts of Video Games (3)***
This course will examine video games from a cultural and social perspective. Rather than focusing on game design, it will explore the ways culture, socialization, and values are a part of gaming. Using a variety of theoretical and methodological approaches, a range of topics will be discussed in an attempt to understand not only the internal workings and social dynamics of computer games, but their place in the broader culture. Topics include: community

management and maintenance in games; social processes and interaction; games as communication spaces and virtual worlds; intellectual property and commodification in games; players as producers of game content; political/ideological analysis of games; gender and race in gaming; and design and values.

Prerequisites: Some sections are open only to ITI majors.

04:547:220 ***Retrieving and Evaluating Electronic Information (3)***
Students examine and analyze the information retrieval process in order to more effectively conduct electronic searches, assess search results, and use information for informed decision-making. Major topics include search engine technology; human information behavior; evaluation of information quality; business, economic, and cultural factors that affect the availability and reliability of electronic information; and the future of search.

04:547:221 ***Fundamentals of Data Curation and Management (3)***
This course introduces students to the use of large data sets and prepares them for work in organizational and research settings. The students will learn the basics of acquiring and curating practical data, discovering patterns, and managing large datasets with databases. Students will work multiple modalities of data such as textual, networked, and numerical datasets.
Prerequisites:04:547:202; or both 01:198:142/01:960:142 and 01:960:291.

04:547:225 ***Data in Context (3)***

This is an ITI Program course number for 04:189:220 DATA IN CONTEXT. This course introduces students to the interplay between data and its surrounding societal context. It will cover the basics of data science, focusing on the ethical, legal, and social implications of data and algorithms. Students will learn to conceptualize and evaluate practical applications of data science in communication, information, and media contexts.

04:547:230 ***Human-Computer Interaction (3)***
This course studies how best to design the interface between human users and computer systems. Emphasis is placed on learning how to involve the user at different stages in the design process to improve the interface in a cost-effective way. In particular, experience with iterative user-centered design, rapid prototyping, and usability testing methods are developed. Students evaluate several computer interfaces as well as iteratively design and evaluate an interface prototype.

04:547:240 ***Digital Hardware Basics (3)***
This course provides students the opportunity to develop the basic computer skills needed to manage an information technology operation in the business world. The class includes a broad coverage of technology concepts and trends underlying current and future developments in IT operations. We start by introducing the workplace environment of your staff, then moving to the background of the computer and its hardware devices components. The students will end with a broad base of knowledge and competency in hardware operations management including installation, configuration, diagnosing, preventative maintenance, and basic networking.

04:547:300 ***Application of Research in Information Technology (3)***
This course provides an introduction to systematic inquiry in information technology and informatics using quantitative and qualitative approaches with an emphasis on individual and organizational users of information working in electronic environments. It includes the analysis, synthesis, evaluation, and reporting of applied and theoretical research in the information technology field. Computer laboratory sessions are used to facilitate

statistical, textual, and graphical analyses of data. Methodologies of research in information technology are critically evaluated.
Prerequisites: 04:547:220.

04:547:310 ***Strategic Leadership in Informatics (3)***
This course focuses on leadership theory and its applicability in understanding the role of leadership in dynamic organizations. It places emphasis on cultural concerns and the importance of diversity in ensuring competitiveness in the increasingly diverse marketplace. It addresses global issues in information and communication technology, the importance of effective leadership at all levels in organizations, and the relationship between leadership and organizational success. An additional focus is the necessity for collaboration and ethical practices.
Prerequisite: 04:547:210.

04:547:311 ***Information Technology Project Management (3)***
Covers fundamental concepts and applied techniques for effective management of information technology development and implementation projects. Students will develop practical competencies with industry-standard software tools and techniques, applying traditional PM frameworks (e.g., Waterfall, Rational) and contemporary (e.g., Agile-based) techniques to the planning and monitoring of information technology implementation projects.
Prerequisite: 04:547:210. Open only to ITI Majors

04:547:315 ***Game Design Methodology (3)***
Examines the theory, practice, and methodology of the modern game designer. Content will cover everything from simple board game mechanics to the inner workings of massively multiplayer experiences. From developing ideas for new product concepts to writing strong game design documentation to fine-tuning gameplay mechanics, this course provides a survey of the best practices, key challenges, and unique opportunities for game designers.
Prerequisite: 04:547:201.

04:547:320 ***Web Design (3)***
This course focuses on the role that web pages play in an organization's public profile, and on establishing linkages between specific content and organizational and client needs in a web-based environment. It addresses principles and skills of web design using current W3C standards, website access, usability, and evaluation. It also addresses developing website content tailored to specific audiences.
Prerequisite: 04:547:201.

04:547:321 ***Information Visualization (3)***
Students learn how to effectively present complex information using the web, multimedia, or information visualization techniques. The course develops an understanding of how best to leverage human perceptual capabilities to communicate information or gain insights into large and abstract data.
Prerequisite: 04:547:201 or 01:198:142/01:960:142 and 01:960:291.

04:547:330 ***Database Technologies (3)***
This course introduces students to basic database design principles and applications, and the use of database technologies for the organization and management of large information systems. It focuses on development of data structures, database design principles, relational structures, database testing and use, query language, as well as translating organizational needs into database applications.
Prerequisite: 04:547:202.

04:547:331 ***Networking and Internet Technology (3)***
This course provides an introduction to computer network and internet technologies. It emphasizes the distinction between various logical concepts and entities such as networks, the internet at large, and the World Wide Web. Universal protocols and services such as SMTP, HTTP, DNS, and SNMP are explored. In addition, students will learn to deconstruct and identify components of common technologies. The context of these technologies within society and business is also introduced
Prerequisite: 04:547:201

04:547:332 ***Advanced Web Design Technologies (3)***
With the advent of the Extensible Markup language, web developers have the opportunity to build richer, more fully interactive sites by tapping into the power of a series of flexible and robust technologies that permit more effective sharing of information between organizations. Students will be starting with the fundamentals of XML and moving on into discussions and implementations of XHTML, Schema, DTDs, RSS, Web Services, AJAX, and other XML-based frameworks for web development. Particular attention will be paid to the issues surrounding open source development efforts and the business case for various technologies and their alternatives.
Prerequisite: 04:547:201 or 04:547:320.

04:547:333 ***Information Security (3)***
An introduction to the various technical and administrative aspects of information security and assurance. This course provides the foundation for understanding the key issues associated with protecting information assets, determining the levels of protection and response to security incidents, and designing a consistent, reasonable information security system, with appropriate intrusion detection and reporting features. The purpose of the course is to provide the student with an overview of the field of information security and assurance. Students will be exposed to the spectrum of security activities, methods, methodologies, and procedures. Coverage will include inspection and protection of information assets, detection of and reaction to threats to information assets, and examination of pre- and post-incident procedures, technical and managerial responses, and an overview of the information security planning and staffing functions.
Prerequisite: 04:547:201.

04:547:340 ***Gender and Technology (3)***
The course analyzes gender in relation to race, class, nationality, culture, religion, and sexuality in the context of technological innovation. Its focus is on fundamental concepts, the feminist critique of technoscience, and the impact of gender issues on the workplace inclusiveness and equity, in a transnational and historical perspective. It examines the effects of gender on the development and use of information technologies and on gender-based information and technology preferences.

04:547:400 ***Information Privacy (3)***
This course explores information privacy, security, and technology in contemporary organizations. Students analyze how regulatory, social, and ethical issues impact information privacy and data protection, and implement tools to manage information privacy risks.
Prerequisites: 04:547:200 and 04:547:333.

04:547:410 ***Electronic Commerce (3)***
This course examines the technologies used to transact business electronically. It investigates a range of social, economic and security issues related to such transactions, and the design of websites that facilitate these transactions.
Prerequisites: 04:547:202 or an equivalent course. Open only to ITI majors.

04:547:415 ***Digital Game Creation (Game Design) (3)***
Creating a digital game involves merging the skills of many disciplines into a single cohesive whole. It involves applying principles from computer programming, two- and three-dimensional digital art, animation, physics, mathematics, artificial intelligence, user interface and experience design, psychology, narrative design, and visual communication to provide an incomplete list. This course focuses upon understanding and demonstrating the technical implementation of game play mechanics within a game engine framework. It is designed to expand upon the work done in Game Design Methodology (04:547:315) to provide an introduction in working with these disparate skill sets by building subsets of a complete game in a digital form.
Prerequisites: 04:547:201 and 04:547:315.

04:547:420 ***Economics of Information Technologies (3)***
This course examines economic theories related to information technologies and systems. The concept of information as "commodity" is considered. Quantitative methods such as cost-benefit analysis and return on information technology investment evaluation are introduced. Alternative methods such as measuring the human costs associated with information technology implementations are also addressed.
Prerequisite: 04:189:210.

04:547:421 ***Data Analytics for Information Professionals (3)***
Data analytics linked to storage, curation, management, and mining with attention to alternative methodological approaches. The course will demonstrate various methods to explore how big data might be analyzed, stored, and retrieved.

04:547:440 ***Information Technology and Learning (3)***
This course focuses on understanding how organizations learn and how information technology can be used for the design and development of instructional systems and materials within the organization to facilitate workplace learning. It addresses workplace learning needs, learning styles, learning outcomes, representation of knowledge, problem solving, and assessment of the usability of e-learning systems in the workplace.
Prerequisite: 04:189:210.

04:547:445 ***Certification Practicum in ITI (3)***
This course will operate like an independent study course, where the students' work will be directed toward passing an IT certification test. Selected certificates--ones that are in demand by companies and organizations--will be options presented to the students. Certification options may include, but are not limited to: A+, CCNA, MCTS, etc.
Prerequisite: Permission by the department. Open only to ITI majors.

04:547:450 ***ITI Internship (1-3)***
The student negotiates or gains a work placement of approximately 50 to 150 hours. The internship provides supervised professional work experience in a corporate, research, or educational setting, where there is opportunity to apply and further develop knowledge and skills acquired in the Information Technology and

Informatics course work.
Open only to ITI majors. Approval of proposed work by ITI program director and academic supervisor, with the approval form filed prior to registration.

04:547:455 ***Capstone in Information Technology and Informatics (3)***
The Capstone in Information Technology and Informatics is designed to synthesize what students have learned in the ITI program through a directed project identified by the coordinator and the ITI director. Throughout the semester, students work together in teams to complete the selected project. Students may also complete written assignments that document the progress of the team, produce a final paper, and participate in a final presentation experience to showcase their work.
Prerequisites: Open to ITI majors only. Completion of at least 18 credits in the major and preferable in the last semester of major.. Permission of the department.

04:547:460 ***Independent Study (3)***
Students design, negotiate and manage a program of study under the advisement of a faculty member based on their existing experience and knowledge and on their career intentions. The study builds on existing knowledge and skills acquired during the major in an area not available through elective courses in the ITI major.
Prerequisites: 04:547:200,04:547:201, 04:547:202, and 04:547:210. Prior approval of proposed project by ITI program director and ITI faculty supervisor, with an approval form filed prior to registration.

04:547:465 ***Senior Thesis (3)***
Honors students will conduct original research under the supervision of a faculty adviser and an honors thesis committee. Students must be accepted into the honors program in order to enroll in this course.
Prerequisites: 04:547:300; special permission of the department. Open only to ITI majors.

04:547:470,471,472,473,474,475,476, 477 ***Topics in Information Technology I,II,III,IV,V,VI,VII,VIII (3,3,3,3,3,3,3)***
Special topics relevant to contemporary studies in information technology and informatics.
Prerequisites: To be determined on the basis of each semester's offering.

Journalism and Media Studies 567 Courses (SC&I-U)

Journalism and Media Studies 567 Courses

04:567:200 ***Writing for Media (3)***
Fundamentals of writing across media platforms. By the end of the course, students will be able to write in many journalistic and media-based styles using basic and accepted techniques accepted by each discipline. This course will serve as a foundation for understanding and using different styles of writing, research, and content development. (Required course)

04:567:201 ***Media Ethics and Law (3)***
Legal issues and ethical problems confronting journalists. (Required course)
Open only to journalism and media studies majors.

04:567:202 ***Creating Content (3)***
Students will master the fundamentals of audio and video production and gain an understanding of how to create engaging and editorially sound visual stories.

04:567:205 ***Digital News Writing and Reporting (3)***
Fundamentals of gathering information and journalistic writing. By the end of the course, students will learn basic journalistic newswriting and reporting techniques and concepts, including writing in journalistic style, fact-gathering, conducting observation, freedom of information, and professional ethics. (Foundational course)
Prerequisites: 04:567:200. Open only to journalism and media studies majors.

04:567:206 ***Broadcast Newswriting and Reporting (3)***
Newswriting for radio, with review of television newswriting approaches for comparison. (Foundational course)
Prerequisites: 04:567:200. Open only to journalism and media studies majors.

04:567:207 ***Design and Digital Editing (3)***
Fundamentals of copyediting and layout. (Foundational course)
Prerequisites: 04:567:200. Open only to journalism and media studies majors.

04:567:210 ***Media Management and Strategy (3)***
Focuses on the key economic and strategic concepts, challenges, and opportunities that are central to the management of contemporary media organizations. The course is grounded in the growing academic and professional literatures examining the unique nature of media products and services and the unique and rapidly changing marketplace dynamics in which media organizations operate. Given the ongoing convergence of media industries and technologies, this course focuses on concepts, analytical tools, and issues that have relevance across the full range of media industry sectors.
Prerequisites: 04:567:200. Open only to journalism and media studies majors.

04:567:211 ***Exploring New Media (3)***
This course examines the nature and impact of emerging media technology. Students study four primary ways new technology influences media, including 1) how media professionals do their work; 2) the nature of media content; 3) the relationships between and among media and relevant publics; and 4) the structure, culture, and management of media organizations and systems. Five areas of media technology are studied, including 1) acquisition tools; 2) storage technologies; 3) processing devices; 4) distribution technologies; and 5) display, access, or presentation tools. (Foundational course)
Prerequisites: 04:567:200. Open only to journalism and media studies majors.

04:567:212 ***Digital Media Production (3)***
Digital media production is the study of media creation and display through online and interactive experiences. This includes audio and video steaming in online contexts, but it also covers other types of new media that are hybrids of the two. Using various multimedia systems and formats, students will explore the foundations of development, content creation and distribution across multiple platforms. Focusing on multi-platform digital media, students will have the opportunity to write, produce and edit your own digital media content for online distribution
Prerequisite: 04:567:200. Open only to journalism and media studies majors.

04:567:215 ***Gender, Race, and Class in the Media (3)***
Content, treatment, and effects of women and minority group coverage in television, newspapers, magazines, popular music, and film. (Foundational course)

04:567:216 ***Digital Media and Society (3)***
Historical and contemporary social, cultural, political, and economic issues related to digital media in society. (Foundational course)

Prerequisite: Open only to journalism and media studies majors.

04:567:217 ***Foundations of Media Analysis (3)***
Survey of critical approaches to the analysis of media and its impact on society. (Foundational course)

04:567:250 ***Children and Media (3)***
This course examines children's relationship to media in its historic, economic, political, and social contexts. It begins by reviewing theories of child development as they inform children's relationship with and understanding of media. Next, it considers the political and economic forces that shape the landscape of children's media. Against this backdrop, the course examines research on the effects of media on children's physical, cognitive, social, and emotional development. Students in this course produce a proposal or prototype for an educational children's media property as their final project. (Concept and Analysis Course)

04:567:251 ***Topics in Journalism and Media Studies I (3)***

Specialized topics related to the practice of journalism are offered on a regular basis.

04:567:252 ***Topics in Journalism and Media Studies I (3)***

Specialized topics related to the practice of journalism are offered on a regular basis.

04:567:253 ***Topics in Journalism and Media Studies I (3)***

Specialized topics related to the practice of journalism are offered on a regular basis.

04:567:274 ***Consumer Media Culture (3)***
Provides a critical understanding of advertising's role in society. Examines the history of advertising, the commercial and social aspects of the messages conveyed by ads, and the advertising industry's influence on social relations and institutions. The basic orientation of the course is to study consumer media culture (advertising, public relations, and branded space) as a form unique to modern society. (Concept and Analysis course)

04:567:275 ***Social Media and Participatory Culture (3)***
This course takes a critical approach to understanding new media environments, especially with regard to what has been called at various moments "social media," "participatory culture," "digital media," "convergence," "Web 2.0," "social web," and "interactive media," among other things. Rather than focus on these emerging media practices as purely technological phenomena, the course situates them in broader social, political, and historical contexts. We will examine key dimensions of cultural life that make up our selves, including friendship, intimacy, labor, celebrity, power, gender, control, race, sexuality, activism, and privacy. (Concept and Analysis course)

04:567:276 ***Musical Cultures and Industries (3)***
This course looks at the invisible power of music over lives, exploring how music can influence how people feel, what they think, and how they think. Exploration of music's social power, delving into its rich history at the center of politics, religion, and a multibillion dollar global industry. Consideration of music's relationship to technology and how changes in the media landscape are altering the role music plays in human life. (Concept and Analysis course)

04:567:278 ***News Media and Government in America (3)***
Examines the relationship between media and institutions and the processes through which people and societies make political choices. (Concept and Analysis course)

04:567:314 ***Photojournalism (3)***
Fundamentals of still photography in print and audiovisual mass media with primary focus on print journalism. Must have a 35mm camera. (Concept and Analysis course)
Prerequisites: 04:567:200. Open only to journalism and media studies majors.

04:567:317 ***Writing the Mediterranean (3)***
Students will draw inspiration from great Mediterranean journeys, and learn to write compelling journey stories of their own. They'll travel with Homer, Mark Twain, Ernest Hemingway, Martha Gellhorn, George Orwell and other notable authors through one of the world's grandest regions, as they explore its legacy of war and exodus, cooking and eating, and romance and revenge. This course includes a spring break reporting trip to a Mediterranean country, such as Spain, Italy or Turkey.
Prerequisites: 04:567:200; open only to majors and MCM Digital Media Track students only, except by special permission. Students must also be registered for 1 credit through Rutgers Study Abroad.

04:567:318 ***Fashion Journalism (3)***
Fashion Journalism is a course for advanced students in the journalism and media studies major who have an interest in writing about fashion, a key industry in New York City. The course provides students with an overview of writing about fashion, the different types of fashion journalism, and the numerous formats for fashion journalism. Students will also look at how fashion journalism has changed and how digital has transformed coverage. Throughout the semester, students will use readings, televised fashion coverage, as well as online documentaries and collection showings to learn about the fashion journalism industry and to practice reporting techniques. Assignments will incorporate a multimedia focus with students working to produce a full range of fashion journalism that reflects the variety of journalism commonly produced in the industry. (Practice and Innovation Course)
Prerequisites: 04:567:200. Open only to journalism and media studies majors.

04:567:319 ***Podcasting and Audio Documentary (3)***
Explores the flourishing field of audio documentary and learn the skills required to use audio as a nonfiction storytelling language. You will be exposed to the process from beginning to end--from recording technique and choosing the right interview setting, to focusing and scripting your story, to digital editing and mixing on Pro Tools First. Along the way, we'll listen to and discuss audio documentary work in a variety of stylistic approaches. (Practice and Innovation Course)
Prerequisites: 04:567:205 or 04:567:206 or 04:567:212. Open only to journalism and media studies majors.

04:567:327 ***Public Information and Public Relations (3)***
Techniques of public information and media relations with focus placed on government, public affairs, and public interest issues. (Practice and Innovation course)
Prerequisites: 04:567:200. Open only to journalism and media studies majors.

04:567:328 ***The Hyperlocal Newsroom (3)***
This class will give students hands-on experience with traditional and digital journalism, including work in both written and multimedia formats, through the creation and management of a news-based website covering Rutgers and the city of New Brunswick. Students will report; write and edit stories; create video, audio, and graphics; take photos; and learn about the various uses of social media within the journalism field. Students will collaborate on

a news-based website that will synthesize learned skills, journalistic practices, and knowledge of information and technology. (Practice and Innovation course)
Prerequisites: 04:567:205 or 04:567:206, or 04:567:212. Open only to journalism and media studies majors.

04:567:329 ***International Reporting (3)***
This course prepares students to write about life in other countries, and to cover international issues from the United States. Students analyze award-winning global journalism, and learn about and practice techniques foreign correspondents use.(Practice and Innovation course)
Prerequisites: 04:567:200. Open only to journalism and media studies majors.

04:567:331 ***Digital Media Lab (3)***
Students use experimental new media tools to transform news reporting, media storytelling, and other media processes. Augmented reality, ereader technology, 360-degree cameras, immersive media, the Mobile Journalist Workstation, 3-D imaging and audio, 3-D printing, interactive video, video as input, geotagged content, animation and news, and other emerging new media tools are applied to journalism and media to create and test new story formats that in an analog world would be impossible, but in a digital, networked world can engage individuals across time and space; and provide much-needed context and customization and in-depth, context-sensitive news and mediated entertainment.(Concept and Analysis course)
Prerequisites: Open only to journalism and media studies majors.

04:567:333 ***Media and Popular Culture (3)***
This course examines the relationship between media and popular culture and their impact on society. This course introduces students to the shifting trends, ideas, and competing forces that will lay the foundation for the cultural battleground of the future. (Concept and Analysis course)

04:567:340 ***Science and Health Journalism (3)***
To introduces students to the specialized fields of science, health, and technology writing.,(Practice and Innovation course)
Prerequisites: 04:567:205 or 04:567:206. Open only to journalism and media studies majors.

04:567:345 ***Media Publishing and Design (3)***
Computer-based writing, design, and pagination for newsletters, magazines, websites,and newspapers. (Practice and Innovation course)
Prerequisites: 04:567:205 or 04:567:206 or 04:567:207 or 04:567:212. Open only to journalism and media studies majors.

04:567:347 ***Information Design for Web Journalists (3)***
Creation, design, and development of webpages as primary sites for distributing news content and to supplement other technologies for news transmission. (Skills course)
Prerequisites: 04:567:205 or 04:567:206 or 04:567:207 or 04:567:212. Open only to journalism and media studies majors.

04:567:350 ***Development of Media (3)***
This course examines what media are and what they do; how specific media technologies affect democratic discourse; how media shape narratives of class, race, ethnicity and gender; the long-running conflict between information and propaganda, and how media conglomerates came to wield such enormous power in modern society. (Concept and Analysis course)

04:567:351 ***Topics in Journalism and Media Studies IV (3)***

Specialized topics related to the practice of journalism are offered on a regular basis.

Prerequisites: 04:567:200 Open only to journalism and media studies majors.

04:567:352 ***Topics in Journalism and Media Studies V (3)***

Specialized topics related to the practice of journalism are offered on a regular basis.

Prerequisites: 04:567:200. Open only to journalism and media studies majors.

04:567:353 ***Topics in Journalism and Media Studies VI (3)***

Specialized topics related to the practice of journalism are offered on a regular basis.

Prerequisites: 04:567:200. Open only to journalism and media studies majors.

04:567:365 ***Race, Islamaphobia and Media (3)***
This course will critically analyze racial and religious stereotypes of Muslims and how they emerge from various historical and political contexts. Students will study films, news media reports, television shows, video games and other cultural products to understand how Muslims are racialized and how Islamophobia operates in popular discourse in the US. (Concept and Analysis Course)

04:567:370 ***Journalism in American Film (3)***
Exposes students to many of the best-known American films about journalism. Examines how the practice and societal impact of journalism has been depicted. (Concept and Analysis course)
Open only to junior and senior journalism and media studies majors.

04:567:373 ***Editing for Multimedia (3)***
In this course students will learn the workflows associated with editing audio, video, graphics, and text. A strong emphasis is placed on demonstration and hands-on experience in this course. Students will become familiar with developing editing scripts, managing content, importing media, editing, and encoding for distribution across multiple platforms. Instructors will also discuss editing concepts which provide a thorough understanding of technique and theory used by professional editors. Exploring these concepts will provide a better understanding of how messages and stories are told through editing. Editing media will be provided for all exercises and projects.
Pre-requisites: 04:567:205 or 04:567:206 or 04:567:212.

04:567:374 ***Media Field Production (3)***
This course introduces students to the working principals of Electronic Field Production (EFP). Special attention is given to on-location creative and technical aspects of media production. Valuable EFP knowledge and skills will be gained through production exercises, projects and readings. Students will learn the constraints and benefits of shooting on-location while producing, directing and operating production equipment.
Pre-requisites: 04:567:205 or 04:567:206 or 04:567:212.

04:567:375 ***Television Reporting (3)***
Fundamentals of television reporting and electronic news gathering. (Practice and Innovation course)
Prerequisite: 04:567:206. Open only to journalism and media studies majors.

04:567:376 ***Advanced Television Reporting (3)***
Advanced television reporting and electronic news gathering with students assigned to various projects. (Practice and Innovation course)
Prerequisite: 04:567:375. Open only to journalism and media studies majors.

04:567:379 ***Media and Politics (3)***
Examines who controls the media and how the media differentially serve the public and power holders. Attention to both news and entertainment media. (Concept and Analysis course)
Open only to junior or senior majors in journalism and media studies.

04:567:380 ***Media and Social Change (3)***
This course looks at how past and present social movements (e.g., environmental, civil rights, labor movements) challenge dominant social, economic, and political structures and how they have been portrayed in the mass media. It also examines how social activists use media technologies to organize themselves and communicate their messages to wide audiences in order to achieve social change. (Concept and Analysis course)

04:567:384 ***Media and the Struggles for Democracy in Central America (3)***
This course takes students to Guatemala for 10 days to study the role of media in historic and contemporary struggles for democracy. The class meets with Guatemalan journalists, human rights activists, Indigenous associations, women's collectives and other community groups. Students visit news agencies, community radio and TV stations and the office of the country's first and only feminist magazine. Using Guatemala as a case study, students will learn about the regional effects of colonization, US military intervention and neoliberal economic policies in the Central American region, as well as the key role of media in local struggles for political autonomy, human rights and democracy.
Prerequisites: 04:567:215 or 04:567:380

04:567:385 ***Irish Media, Politics, and Cultural Survival (3)***
This embedded course takes students to Ireland for 8 days to study the role of Irish (Gaelic) journalism and media in historic and current struggles for political autonomy and cultural identity. There are six 3-hour class meetings before we travel. In the heart of Galway's Irish-Gaelic speaking region, students will spend a few days in the lovely rural village of Carraroe, where Gaelic is the main language spoken (although everyone is bilingual in English). They will also spend two days in the cultural hub of historic Galway City, and two days in the county's bustling capital, Dublin. Through readings, films, lectures and site visits, students will learn the history of British colonialism in Ireland and the role of Irish-Gaelic journalism in the country's struggles for political independence from England. They will meet Irish civil rights activists who fought in the 1960s and 70s for the right to have Irish/Gaelic radio and TV stations in Ireland, and will visit Gaelic radio, TV, print and online news outlets to speak with journalists and other media makers. Focused on the political and cultural importance of native language media for minoritized and formerly colonized populations, students will see examples of Irish-language journalism and cultural programming such as documentaries, websites, children's cartoons, sports, music videos and soap operas (subtitled in English), and gain familiarity with contemporary debates about whether the Irish government should continue funding Irish language media. Connections will be emphasized between struggles for Gaelic media in Ireland and struggles by minoritized and indigenous populations in other parts of the world for the right to have media in their native languages.
Prerequisites: 04:567:215 or 04:567:380. Open only to majors in journalism and media studies.

04:567:389 ***Independent Study in Journalism and Media Studies (3)***
Independent study in journalism and media studies topics under faculty supervision. (Elective course)
Prerequisites: 04:567:200; 75 or more overall credits, five (5) courses in major, one foundation. Open only to junior or senior majors in journalism and media studies. Minimum 2.50 GPA overall, and 2.75 in the major, and permission of instructor.

04:567:393 ***Internship in Journalism and Media Studies (3)***
Supervised field experience at professional media outlets. Before registering, students must meet with the internship coordinator to determine eligibility and receive approval of the placement. Students must work at their site a minimum of 15 hours per week during the semester. Off-site (virtual) positions will not be accepted. Students will complete weekly journals and attend several in-class meetings during the semester. Note: Students will be allowed to take both the 3-credit internship and the 6-credit internship, but are not allowed to take both of them in the same semester. Also note that students are limited to a maximum of 9 out-of-classroom credits in the major; the courses that fall under this heading are: Internship, Practicum, and Independent Study.
Prerequisites: 04:567:200; 75 or more overall credits, five (5) courses in major, one foundation. Open only to junior or senior majors in journalism and media studies. Minimum 2.50 GPA overall, and 2.75 in the major, and permission of instructor.

04:567:394 ***Internship in Journalism and Media Studies (6)***
Supervised field experience at professional media outlets. Before registering, students must meet with the internship coordinator to determine eligibility and receive approval of the placement. Students must work at their site a minimum of 24 hours per week during the semester. Off-site (virtual) positions will not be accepted. Students will complete weekly journals and attend several in-class meetings during the semester. Students will be allowed to take both the 3-credit internship and the 6-credit internship, but are not allowed to take both of them in the same semester. Also note that students are limited to a maximum of 9 out-of-classroom credits in the major; the courses that fall under this heading are: Internship, Practicum, and Independent Study.
Prerequisites: 04:567:200; 75 or more overall credits, five (5) courses in major, one foundation. Open only to junior or senior majors in journalism and media studies. Minimum 2.50 GPA overall, and 2.75 in the major, and permission of instructor.

04:567:405 ***Writing about Social Issues (3)***
Students will cover the game-changing stories of our time, from the widening gap between the rich and the poor; to battles over immigration; to the climate change wars that may determine our very survival. They'll analyze groundbreaking journalism, and have an opportunity to write and shoot commanding stories of their own. (Practice and Innovation course)
Prerequisites: (04:567:215 or 04:567:380) and (04:567:205 or 04:567:206 or 04:567:329).

04:567:410 ***Magazine Writing (3)***
Magazine writing for publication, including consumer, trade, and business magazines. (Practice and Innovation course)
Prerequisites: 04:567:205 or 04:567:206. Open only to journalism and media studies majors.

04:567:413 ***Literary Journalism (3)***
This course analyzes great examples of nonfiction writing from the last century to appreciate what makes for enduring non-fiction journalism that rises to the level of literature.

04:567:415 ***Media and Climate Change (3)***
This course will consider the intersections of science, media, and society. With a focus on both theory and practice, it explores the media's role in understanding and communicating about the most critical science and environmental issues of our day. (Concept and Analysis course)
Prerequisites: Open only to junior or senior journalism and media studies majors.

04:567:420 ***Global News (3)***
Analyzes, and discusses global production, distribution, and consumption of news. Issues include global news flows, journalistic cultures and practices, and international news coverage. (Concept and Analysis course)
Prerequisites: Open only to junior or senior journalism and media studies majors.

04:567:423 ***Communication Law (3)***
Examines laws and regulations governing U.S. mass media. (Concept and Analysis course)
Prerequisites: Open only to juniors or seniors.

04:567:425 ***Copyright, Media, and Culture (3)***
In this course we will discuss one of the most powerful social, cultural, economic, and political institutions of our day: intellectual property (IP). How did we arrive at the notion that creative works and ideas can be owned, bought, and sold like tangible commodities? What impact does this concept have on the way we view the world? How does it help us achieve our social goals, and how does it present obstacles to reaching those goals? And, in the age of digitized information and networked communication, how can we understand the role of IP in light of the rapidly changing developments in the way culture is produced and consumed? In our efforts to better understand these issues, we will read both primary and secondary materials, covering subjects ranging from the birth of copyright to the latest developments in the global "copyfight" over information in the digital age; view relevant and interesting documentary films; and enjoy guest lectures from a variety of knowledgeable speakers. (Concept and Analysis course)
Prerequisites: Only open to journalism and media studies juniors or seniors.

04:567:430 ***Sports Writing and Reporting (3)***
Fundamentals of sports writing, reporting, and commentary for print and online media. (Practice and Innovation course)
Prerequisites: 04:567:205 and 04:567:206. Open only to journalism and media studies majors.

04:567:431 ***Sports Broadcasting and Reporting (3)***
A comprehensive introduction to sports broadcasting and reporting in various media outlets. Subject matter will include preparing radio and television sportscasts, interviewing, sideline reporting, podcasting, creating sports packages, and discussions on hosting sports talk shows and radio and television play-by-play.
Prerequisites: 04:567:205, OR 04:567:206, OR 04:567:212, OR 04:567:319 . Open only to journalism and media majors. By permission of the instructor.

04:567:432 ***Multimedia Sports Reporting (3)***
This course will explore the many facets of multimedia sports reporting, from conventional newspaper websites to robust sports sites. Examines the use of social networking services and newer technology to transmit sports news. (Practice and Innovation course)
Prerequisites: 04:567:205 or 04:567:206 or 04:567:212. Open only to journalism and media studies majors.

04:567:434 ***Critical Issues in Sports Media (3)***
Examines the critical issues in sports and sports media, including race, gender, class, politics, culture, economics, and the role of sport in society. (Concept and Analysis course
Prerequisite: Open only to journalism and media studies majors.

04:567:438 ***Media Industries in the Digital Age (3)***
This course will look at how media industries – such as TV, film, music, book publishing, and journalism – are using data analytics, algorithms, and generative AI to compete in a fierce battle for audiences' attention.
Prerequisites: 04:567:215 or 04:567:216 or 04:567:217. Open only to journalism and media studies majors.

04:567:445 ***Media, Movement, and Community Engagement (3)***
This course will enable students to participate in the development of a journalism and media production project. They will also learn how to harness technology and study its implementation and impact on social change.(Concept and Analysis and/or Practice and Innovation course)
Prerequisite: 04:567:215 or 04:567:380.

04:567:450 ***Promotional Media (3)***
What is a promotional culture? Bringing together elements of media studies, visual culture, critical branding/ marketing studies, and consumer culture, this course is designed to provide advanced undergraduate students with analytical tools to understand the extent to which promotional language, communication, and habits suffuse our everyday lives. (Concept and Analysis course)
Prerequisites: 04:567:274. Open only to Junior or Senior journalism and media studies majors.

04:567:451 ***Topics in Journalism and Media Studies VII (3)***
Specialized topics related to the practice of journalism are offered on a regular basis. (Practical course)
Prerequisites: 04:567:200 and one foundation course in Journalism and Media Studies. Open only to journalism and media studies majors.

04:567:452 ***Topics in Journalism and Media Studies VIII (3)***
Specialized topics related to the practice of journalism are offered on a regular basis. (Practice and Innovation course)
Prerequisites: 04:567:200 and one foundation course in Journalism and Media Studies. Open only to journalism and media studies majors.

04:567:453 ***Topics in Journalism and Media Studies IX (3)***
Specialized topics related to the practice of journalism are offered on a regular basis. (Practice and Innovation course)
Prerequisites: 04:567:200 and one foundation course in Journalism and Media Studies. Open only to journalism and media studies majors.

04:567:454 ***Practicum in Journalism and Media Studies (3)***
Specific directed project work conducted under faculty supervision. (Practice and Innovation course)
Prerequisites: Permission of the instructor required. Open only to junior and senior majors in journalism and media studies.

04:567:457
The Civil Rights Movement, whose high point lasted from roughly 1954 to 1968, was one of the most important social movements in American history. Encompassing legal, political, and social strategies, the movement strove to abolish segregation and other forms of racial discrimination, secure equal opportunity for all, and transform attitudes about race across society. Its high point coincided with an era of extremely high-quality journalism, and its historic achievements were recorded and analyzed by many of the country's most talented writers. This course examines the Civil Rights Movement through the work of the journalists who covered it. We will read the work of these journalists to understand better both the nature of the journalism they practiced and the significance of the events they wrote about.

04:567:458 ***Media, Government, and Politics (3)***
Examines interactions between media and political institutions, actors, and processes in light of theories of journalism, communication, and political practice. (Concept and Analysis course)
Prerequisites: Open only to junior and senior journalism and media studies majors.

04:567:459 ***Media, Democracy, and the Public (3)***
The course explores how the news media have figured in constituting a public sphere in American history. Readings juxtapose classics of political philosophy with historical or sociological works describing democracy in practice in the United States. (Concept and Analysis course)
Prerequisites: Open only to junior and senior journalism and media studies majors or by permission of the instructor.

04:567:460 ***News, Entertainment, and Politics (3)***
Examines the influence of entertainment media on political news, opinion, knowledge, and behavior. (Concept and Analysis course)
Prerequisites: Open only to junior and senior journalism and media studies majors.

04:567:465 ***Documentary Filmmaking and Storytelling (3)***
Long-form video journalism storytelling developed over a significant period of time teaching students critical thinking, research, writing skills, and various production techniques. (Practice and Innovation course)
Prerequisites: 04:567:206 or 04:567:212. Open only to journalism and media studies majors.

04:567:470 ***Critical Analysis of News (3)***
Surveys and critiques of social science research on news, journalists, and the news media. (Concept and Analysis course)
Prerequisites: Open only to junior and senior journalism and media studies majors.

04:567:475 ***International Media (3)***
Analyzes debates about media and cultural globalization, and theories about international media. (Concept and Analysis course)
Prerequisites: Open only to junior and senior journalism and media studies majors.

04:567:484 ***Workshop in Journalism and Media Practice I (1.5)***
Specialized topics directed at enhancing or introducing journalism and/or media-related skill sets. These are intense seven-week workshops teaching students specific skills applicable to the field. The specialized focus can be an accelerated introduction to basics or an advanced training in particular skills learned in previous offerings. (Practice and Innovation course)
Prerequisites: 04:567:205, 04:567:206, or 04:567:212 . Open only to journalism and media studies majors.

04:567:485 ***Workshop in Journalism and Media Practice II (1.5)***
Specialized topics directed at enhancing or introducing journalism and/or media-related skill sets. These are intense seven-week workshops teaching students specific skills applicable to the field. The specialized focus can be an accelerated introduction to basics or an advanced training in particular skills learned in previous offerings. (Practice and Innovation course)
Prerequisites: 04:567:205, 04:567:206, or 04:567:212. Open only to journalism and media studies majors.

04:567:488 ***Independent Study in Media Studies (3)***
Independent study in media studies topics under faculty supervision. (Elective course)
Prerequisites: 75 or more overall credits, five (5) courses in major, one foundation, 04:567:200, 2.75 major GPA, 2.5 overall GPA, and permission of instructor. Open only to junior and senior journalism and media studies majors.

04:567:489 ***Independent Study in Journalism (3)***
Independent study in journalism topics under faculty supervision. (Elective course)
Prerequisite: 75 or more overall credits, five (5) courses in major, one foundation, 04:567:200, 2.75 major GPA, 2.5 overall GPA, and permission of the instructor. Open only to junior and senior journalism and media studies majors.

04:567:490 ***Senior Thesis/Project (3)***
Honors thesis or project under faculty supervision. (Elective course)
Prerequisites: 04:567:488 or 04:567:489. Permission of instructor. Must meet minimum GPA requirements. Open only to senior journalism and media studies majors.

04:567:495 ***Investigative and In-Depth Reporting (3)***
In-depth reporting project using public records and other investigative journalism techniques. (Practice and Innovation course)
Prerequisite: 04:567:205 or 206. Open only to journalism and media studies majors.

04:567:499 ***Capstone in Gender and Media (3)***
In this capstone to the gender and media minor, students will develop, discuss, produce, and critique a project related to gender, media, and technology. Students will articulate and present the project in written and oral formats and will have the option to also (1) create an in-depth multimedia component to the project; 2) complete an internship; or 3) complete a service learning experience. Note: Students in the minor, especially those who are not otherwise SC&I majors, may choose to enroll in the capstone through the program in women's and gender studies, course number 01:988:499.
Prerequisite: Minimum of 12 credits in the gender and media minor must be completed before enrolling in the capstone.

Digital Communication, Information, and Media 189 Courses (SC&I-U)

Digital Communication, Information, and Media 189 Courses

04:189:151 ***Virtual Team Dynamics (3)***
Students learn to understand and navigate the dynamics of the modern technology-infused workplace in which the ability to apply well-developed communication, writing, and technological skills/competencies in virtual settings is vital. Theory, research, and case studies will be analyzed with regard to virtual teambuilding, managing conflict

and power dynamics, enhancing creativity and innovation, gathering and disseminating information effectively and ethically, integrating virtual and face-to-face tasks and spaces as appropriate, embracing diversity and inclusion, and facilitating global, intercultural collaboration. The course takes a multi-disciplinary approach to these topics, blending insights from multiple disciplines including communication, psychology, sociology, business, and human resources management.

04:189:220 ***Data in Context (3)***
This course introduces students to the interplay between data and its surrounding societal context. It will cover the basics of data science, focusing on the ethical, legal, and social implications of data and algorithms. Students will learn to conceptualize and evaluate practical applications of data science in communication, information, and media contexts. (Note that ITI students have an ITI course number for this class, 04:547:225.)

04:189:251 ***Strategic Presentation Methods in Digital Media (3)***
This course examines theories and techniques for analyzing, producing, and disseminating messages. Students will learn how to use web-based and multimedia presentation tools to connect with a variety of audiences and convey a desired message. Each student will craft a message to support some social change by developing and shaping the message into compelling digital media presentations in a range of formats.

RU Learning Goals met by this course: Information Technology and Research (ITR) aa. Understand the principles that underlie information systems. WDd - Communicate effectively in modes appropriate to a discipline or area of inquiry; evaluate and critically assess sources and use the conventions of attribution and citation correctly; and analyze and synthesize information and ideas from multiple sources to generate new insights.

04:189:351 ***Leadership in Digital Contexts (3)***
Students will use scenarios, simulations, and game-playing as individuals, in small groups, and as a class to employ creativity and innovation in problem solving, weigh risk, perform leadership and management roles with peers, and grapple with the consequences of making and implementing decisions in digital environments. Students will learn how to assess and select among various technologies for making and disseminating decisions. This course presents a framework for understanding the role of technology in leadership functions including planning, information dissemination, consensus building, negotiation, and engagement with stakeholders for informed and participative decision making in online and virtual settings.
Prerequisite: 04:189:151 or 04:189:152.

04:189:352 ***Self and Society in Virtual Contexts (3)***
Students explore what it means to have multiple and merging "identities" in an online community by attending this seminar in person in a traditional classroom supported with interactions as avatars within a social virtual world. How are interpersonal relationships and group interactions manifested in virtual environments? How is selfhood expressed? What is the impact on communication when gender, race, and other physical attributes are self-selected and represented digitally? What are the implications for privacy and security? What does this mean for the workplace? What do "human rights" mean in a virtual society and is citizenship changed with purely online interaction? Through role-playing and discussion, students connect to evaluate the consequences of a digital context on the self and society.

04:189:353 ***Digital Technology and Disruptive Change (3)***
This course explores whether and how emerging digital technologies--such as social, mobile, wearable media; virtual worlds and games; sensor-laden devices and environments; robotics; drones; implantable chips; artificial intelligence--contribute to disruptive changes in relationships, organizations, societies, and selves. Multiple

perspectives on communication, information, and media will be applied in analyzing the extent to which the structure, norms, and dynamics of modern social life have changed and have experienced continuity, and the conditions under which such changes can be considered disruptive. Micro- and macro-level processes and outcomes (interpersonal, cultural, institutional, political, global) of emerging digital technologies will be examined.
SAS Core Learning Goals met by this course: Information Technology and Research (ITR) y. Employ current technologies to access information, to conduct research, and to communicate findings. CCO-2: Analyze the relationship that science and technology have to a contemporary social issue.

04:189:451 ***Capstone in Digital Communication, Information, and Media (3)***
The capstone course is designed to facilitate students' synthesis of what they have learned in the program, through a directed project. Students will first work together in class to identify and refine projects or areas of research to complete. Capstone project presentations will be captured digitally for feedback from the larger community. Capstone projects may be done individually or in pairs. Projects will contribute to the students' websites; a portion of this class will include preparation of a website of material from the minor.
Prerequisites: Completion of at least 15 credits within the minor, or completion of 12 credits and concurrent enrollment in one other DCIM course. Open only to declared DCIM minors.

Gender and Media 438 Courses (SC&I-U)

Gender and Media 438 Courses

Courses in the gender and media minor draw from four different programs:

01:988 - Women's and Gender Studies
04:189 - Communication and Information
04:547 - Information Technology and Informatics
04:567 - Journalism and Media Studies

Below is a list of all of the courses in the program, linked to their descriptions in their programs. For requirements, check the Gender and Media description. Descriptions for the 988 (women's and gender studies) courses may be found on that department's website.

01:988:200 Gender, Digital Media, and Social Curation
01:988:202 Gender, Culture, and Representation
01:988:255 Gender, Art, and Society
01:988:257 Gender and the Body: Representations of Pornography
01:988:258 Gender, Race, and Contemporary Art
01:988:259 Homosexuality and Visual Culture
01:988:317 Gender and Consumption
01:988:341 Gender and Popular Culture
01:988:376 Theories of Women and Film
01:988:499 Capstone in Gender and Media
04:189:251 Strategic Presentation Methods in Digital Media
04:547:340 Gender and Technology
04:567:200 Writing For Media

04:567:215 Gender, Race, and Class in the Media
04:567:274 Consumer Media Culture
04:567:380 Media and Social Change
04:567:499 Capstone in Gender and Media

Master of Communication and Media Program (SC&I-G)

MASTER OF COMMUNICATION AND MEDIA PROGRAM

Mayra Doerfel, Chair, Department of Communication

Amy Jordan, Chair, Department of Journalism and Media Studies

Richard Dool, Director of the Master of Communication and Media Program

Please visit the Master of Communication and Media Program website.

M.C.M. Program (SC&I-G)

M.C.M. PROGRAM

The Master of Communication and Media (M.C.M.) program integrates theory and practice to advance professional hands-on experience in communication, media, and other information intensive professions. Our faculty emphasize original research, cutting-edge theory, and knowledge and skills necessary to understand and manage the complex communication, information, and media processes inherent to the information age.

The M.C.M. program prepares students for professional careers in public relations, marketing, digital media, social Media, corporate communication, and other communication-intensive positions. With an emphasis on critical thinking, problem solving, writing skills, and digital advancements, the M.C.M. program is committed to developing individuals who are fully equipped to assume leadership roles in the vast communication and media industries.

Semester Options

Admission is offered on a rolling basis for Fall, Spring, and Summer semesters. Students can complete an M.C.M. degree in as few as 15 months. Most M.C.M. students complete the program in 18 to 24 months.

Study Options

Courses in the program are offered on campus, online, hybrid, and on weekends. This provides students the flexibility to complete a degree while also working. Over 60 percent of M.C.M. students work full time or part time.

Degree Requirements

The M.C.M. program requires the successful completion of a minimum of 36 credits. This includes completion of a five program core courses (12 credits) and eight elective courses (24 credits). For full-time students, the degree typically requires four semesters of study (9 credits per semester); 12 credits per semester is the maximum course load. The program is frequently pursued on a part-time basis. Most part-time students enroll in two to three courses per semester, which can be managed while working full time.

Students may transfer up to 6 credits of graduate coursework toward the degree when: (a) the credits were earned within the past five years; (b) the coursework translates directly to the student's development and preparation in the M.C.M program; and (c) the student achieved a grade of B or above in the coursework. To request transfer of credits, students must (1) submit to the program director a cover letter identifying the credits and explaining why the courses are relevant to the M.C.M. degree and their professional goals; (2) attach to the cover letter a syllabus for each course the student requests to transfer; and (3) submit official transcripts from the transferring institution. Once approved, copies of the transcript and transfer request form will be sent to the Graduate Registrar for inclusion on the student's Rutgers transcript.

Current students wanting to take master's courses outside the program must have the approval of the Director of the program. Prior to registering for the outside class, students should provide a copy of the course syllabus and a brief statement on how the class aligns with academic/professional goals. Students are responsible for reaching out to external program/faculty to obtain permission to take the class. In all cases, every student must earn at least 30 credits within the M.C.M. program, and a total of 36 credits must be applied to earn the degree, including transfer credits. (limited to 6 credits)

There are no language or mathematics requirements for this degree.

Specializations

The M.C.M. program offers six specializations to allow students to focus on a specific area of study:

- Communication and Media Studies
- Digital Media
- Public Relations
- Strategic and Leadership Communication
- Health Communication
- Communication and Media Research

MCM has both Program Core Courses and each specialization has both required Core and recommended courses; see the program website for details. There are also an array of available electives that students can choose to tailor their M.C.M degree.

International Students

If you are an international student you should visit the Rutgers Global-International Student/Scholar Services website, which provides details about rules and processes on obtaining and maintaining visa status; provides required forms; offers information about orientation an international advisers; outlines rules concerning employment and internships for international students; and much more.

All international M.C.M. students should attend an orientation session before their first semester of study, or as soon thereafter as possible.

Curriculum

M.C.M. students complete 36 credits to earn the degree. The program can be paced according to the student's schedule, with enrollment in 3-12 credits per semester. Once admitted to the M.C.M. program, students can focus on one of the seven specialization or combine specializations to focus on multiple areas of interest.

All core and elective courses in the seven specializations are taught either online and/or on campus in the evening between 6:00-9:00 p.m. on weeknights (Mon. to Thurs.), and some are offered on weekends. Some electives are cross-listed with courses in the Master of Information program or the PhD program in the school.

The office of the M.C.M. program is located in the School of Communication and Information Building, 4 Huntington Street, New Brunswick, NJ 08901-1071.

Dual-B.A./M.C.M. Program (SC&I-G)

DUAL-B.A./M.C.M. PROGRAM

Undergraduate communication and journalism and media studies majors may apply for the Master of Communication and Media (M.C.M.) program during the junior or senior year. Benefits of this Five-Year Dual-degree program include:

- If accepted, dual degree students can enroll in up to four 500-level M.C.M. courses (12 credits) in their senior year, which can count for both their undergraduate and M.C.M degree requirements. Students cannot apply more than four courses toward both degrees. These courses can be taken in the Fall, Spring semesters or Summer sessions only.
- Students pay undergraduate tuition rates for those M.C.M. courses taken in the senior year.
- Once a student's undergraduate degree requirements are completed, students graduate with their bachelor's degree and will then be considered full graduate students in the M.C.M. program.
- The M.C.M. master's degree may be completed within a few semesters through full-time study (usually in 12-15 months) or at a slower pace while working full time. The M.C.M. degree may also be completed in the evenings.

Applying to the Program

- Ideally students should apply for the Five-Year Dual-Degree Program om their junior year or early senior year through Graduate Admissions.
- Be sure to submit all the materials listed under "Admissions" below through the Graduate Admissions website, which includes a personal statement, two letters of recommendation, Graduate Record Exam scores, and Rutgers transcripts. Learn more about the Graduate Record Exam online.
- GRE waivers are available with an undergraduate GPA of 3.5 or five years of full-time work experience or two letters of recommendation from current Rutgers faculty members.
- Apply at any time during the Junior year. Once all application materials are complete, an application will be reviewed for acceptance.
- Remember that students can submit an application to the dual-degree program before completing all required courses. However, before enrolling in M.C.M. classes, students must have completed all requirements and some electives towards the major.

- The M.C.M. program is selective in accepting students. To enhance the chances of being accepted, ask for letters of recommendation from professors in the school.

After Admission

- Students will be advised by the M.C.M. director about their progress in the M.C.M. program.
- Once eligible to enroll in graduate classes, students may take up to four M.C.M. courses in the senior year. Up to four M.C.M. courses will double-count in satisfying upper-division (300/400 level) major elective requirements and M.C.M. requirements
- Students cannot enroll in any M.C.M. elective that is cross-listed with a Ph.D. course.
- Students cannot enroll in the M.C.M. Communication Research (17:194:514), ePortfolio (17:194:508) or Capstone (17:194:519) courses in the senior year.

Important Differences Between Graduate and Undergraduate Courses

- Master's-level work is graduate work. This means that students will be learning in ways that are different from undergraduate work. Students will be asked to do more reading than in typical undergraduate courses; read faster; and come ready for thorough discussions of the readings in class. There will be advanced study of theory and reading of original research pieces.
- Classes will include working professionals as well as master's-level students who are a year or two ahead. M.C.M. students come from around the region, the country, and outside the United States. An important benefit of the program is exposure to the real-life working examples and experiences of the other students.
- Master's-level courses require students to apply learning and develop points of view above and beyond that of typical undergraduate coursework. There will be few, if any, exams; students will be assessed on participation in class discussions, short papers, presentations, and lengthier project papers.
- Students will be invited to participate in academic events and presentations as part of the learning experience.
- Students will be a part of the MCM Graduate Student Association and invited to social events, networking events, and presentations.
- Graduate courses usually meet once per week. It is essential for students to attend every class meeting.
- Participation in discussion is a very important part of learning and is usually assessed in graduate courses as a major portion of a grade.
- Classes do meet during finals week for presentations and other activities.
- Graduate courses can stretch students in new ways. Students should expect to be challenged.

Grading in the Dual-Degree Program

- Grades that can be awarded for graduate courses are: A, B+, B, C+, C, F; or pass/no credit in some designated experiences. There is no D in the graduate grading rubric.
- Grades in graduate school are very different than in undergraduate programs in the sense that most graduate students earn A's and B's in their coursework. A C+ or C grade is considered a "red flag" and can result in probation.
- The standards for achieving an A or a B in a graduate course, even as a dual-degree student, are likely to be slightly more demanding than for an undergraduate course.
- Grades earned in the dual-degree program are factored into a student's GPA the same as undergraduate grades.

- Graduate students focus more on the learning than on the points and grades. A transition into graduate work means it is important to start thinking in these terms. How can the material be mastered? How can more useful insight into the topic/readings be gained? What can be done to enhance the ability to apply the theory and research being read? These are important questions and should dominate a student's thinking in terms of the evaluation of performance in the class.

Substituting Undergraduate Major Courses for M.C.M. Courses of the Same/Similar Topic

- Up to four M.C.M. courses can be taken once students are admitted to the M.C.M. program. However, the content of a master's-level course will be more advanced than the undergraduate course with the same name at the 300 or 400 level. It may be beneficial to have an introduction to course material at the 300 or 400 level and then take the M.C.M. course covering the same topic.
- Once admitted to the M.C.M. program, students should visit with the M.C.M. director to seek advice about courses to take that may complement a student's background.
- It is not wise to plan junior year courses around the assumption that admission to the M.C.M. program is imminent. Students should move through junior year completing all major requirements. Then, if admitted to the M.C.M. program, students can plan future coursework.

M.C.M. Contacts

- M.C.M. Program Director Dr. Richard Dool is the first point of contact for questions.
- An undergraduate adviser can provide the best advice about completing undergraduate degree requirements.

M.C.M. Program Admissions (SC&I-G)

M.C.M. ADMISSIONS

The Master of Communication and Media (M.C.M.) program welcomes applications from recent undergraduates and accomplished professionals who demonstrate excellence in:

- Analytical Skills
- Critical Thinking
- Intellectual Curiosity
- Interpersonal Skills
- Record of Academic Achievement
- Self-Motivation
- Writing and Presentation Skills
- Work Experience (not required of recent graduates of undergraduate programs)

Applicants with a variety of educational and employment backgrounds (e.g., communication, information science, media studies, human resource management, health communication, management, psychology, leadership, or other social sciences) are encouraged to apply. In making admission decisions, the faculty consider the entire application and do not use any single criterion (e.g., grade-point average/GPA) as an absolute cut-off. The application materials listed below are used to assess an applicant's likely fit and potential success in the program.

1. An application for admission. Complete the entire application through the Graduate Admissions website. To apply to the on-campus M.C.M. program in New Brunswick, select "Communication and Information Studies - 17194." To apply to the B.A./M.C.M. dual-degree program, select "Communication and Information Studies-B.A. and M.C.I.S. Dual Degree - 171943."

2. Official transcripts of previous academic work. As a general guideline students are expected to have an undergraduate and/or graduate academic record of at least a 3.0 cumulative grade-point average. The admissions committee is especially interested in grades achieved in coursework that is related to the M.C.M., which represents the applicant's likely success in our program. International students are required to have their transcripts evaluated by WES or a National Association of Credential Evaluation Services (NACES) member; further information is below in section 8.

3. Official GRE scores. The MCM Program does not require the Graduate Record Exam (GRE). It is optional. If a student has taken the GRE for other purposes, they can submit them as part of the MCM application. The lack of a GRE result will not adversely affect a student¿s MCM application.

4. Two letters of recommendation. These letters should focus on the applicant's academic capacity (e.g., problem solving, thinking, analytical, and reflective skills) to undertake a rigorous program of graduate study. Letters are expected from an applicant's professors or from senior members of professional and/or corporate organizations who are able to comment substantially on the applicant's academic capabilities rather than on workplace efficiency and character traits. The recommender's relationship to the applicant must be established in the letter of recommendation. Personal friends, clergy, and family members are not usually appropriate recommenders for this graduate study. Applicants will be asked to supply the names and email addresses for their recommenders as part of the online application process.

If a change of recommender is desired once an application has been submitted, the change cannot be made through the online application. In this case, students should print and complete the top of the Recommender form for each recommender. The form may also be used if a recommender prefers to submit a traditional letter rather than an online recommendation. Students should provide recommenders who are using the printed form with an

envelope addressed to Rutgers and have them mail the recommendation in. The address is Office of Graduate and Professional Admissions, Rutgers, The State University of New Jersey, 56 College Avenue, New Brunswick, NJ 08901-8541 U.S.A.

5. Personal Statement. A personal statement of 300-500 words is required. The statement should describe the applicant's professional and academic background and career objectives. Applicants should explain why attending the M.C.M. Program at Rutgers is desired, aspects of the program that are attractive, and specific areas a student would like to study within the program.

6. Résumé or CV: Applicants should include a résumé describing employment history, academic honors, scholastic recognition, publications, leadership roles, and/or other academic, professional, and community activities.

7. A $70 nonrefundable application fee.

8. International Students: Five additional items are required for international students.

   (I) Minimum required scores on either TOEFL (Test of English as a Foreign Language), IELTS (International English Language Testing System) or DET (Duolingo English Test) earned within the past three years. We grant waivers to (a) Students who earned their bachelor's degree from an accredited U.S. college or university or have taken an accredited English as a Second Language program or course and (b) International applicant students coming from an English-speaking country with a minimum of three years undergraduate education where the mode of instruction was English.
   - TOEFL minimum required scores are 90 for the internet-based test (iBT) or 580 for the paper-delivered test. Use Rutgers Institutional Code 2790; Rutgers does not use ETS department codes. See TOEFL for more information.
   - IELTS Academic test minimum required overall band score is 7.0. IELTS results are delivered to receiving organizations by postal mail or electronic download. See IELTS for more information.
   - Duolingo minimum required score is 120. See Duolingo for more information.

   (II) An official transcript evaluation by any member of NACES (National Association of Credential Evaluation Services) such as WES (World Education Services). Refer to NACES for a full list of eligible evaluators.

   (III) A video-based interview. The interview platform is Duolingo. This helps us determine that an applicant's English proficiency is at a level that will ensure a positive learning experience and success in the MCM program. What you need to know for Duolingo:
   - You will need to create Duolingo account and review the test requirements.
   - There is a graded 45-minute adaptive test that evaluates your reading, writing, speaking and listening skills.
   - The adaptive test is followed by a ten-minute ungraded video interview.
   - The minimum Duolingo score for acceptance is 105.

   (IV) Evidence of adequate financial resources.

   (V) Proper visa status

For More Information

For further information, contact the M.C.M. program adviser at 848-932-7500, Monday through Friday from 8:30 a.m. to 5:00 p.m., or send an email inquiry to the program director, Richard Dool (richard.dool@rutgers.edu), or the Office of Student Services at mcm@comminfo.rutgers.edu . For More Information For further information, contact the M.C.M. program adviser at 848-932-7550, option 2, Monday through Friday from 8:30 a.m. to 5:00 p.m., or send an email inquiry to the Pprogram Ddirector, Richard Dool (richard.dool@rutgers.edu), or the Office of Student Services at mcm@comminfo.rutgers.edu .

M.C.M. Financial Aid (SC&I-G)

M.C.M. FINANCIAL AID

Students interested in financial support from Rutgers University or external sources are urged to file the Free Application for Federal Student Aid (FAFSA) each year since it is generally required for consideration for both School of Communication and Information and Rutgers financial assistance. Any awards for which financial need is a criterion require submission of the federal FAFSA form by March 15. Information may be found online.

For further information on financial aid including how to apply for aid, sources of financial aid, and restrictions on financial aid and employment, visit the Costs and Financial Aid website.

The School of Communication and Information (SC&I) does not offer scholarships and fellowships to new MCM graduate students, funding is not usually available. Continuing students are notified early each spring about awards available for the upcoming year, and students are able to submit an application for any scholarship for which they are eligible. For details about SC&I scholarships offered in the most recent year, see the School of Communication and Information (SC&I).

Some graduate students at the university are supported by fellowships funded by sources outside the university. Students should consult standard reference material for sources of non-university fellowships. Students should also contact clubs, fraternal, religious, and national professional organizations and local interest groups for possible aid through stipends and tuition credits. A student who receives any of these awards is required to notify the Office of Financial Aid.

SC&I hires graduate students as instructional assistants or graders to support faculty in teaching undergraduate students. Students receive notifications each semester through the program email list with details on these positions.

M.C.M. Career Opportunities (SC&I-G)

M.C.M. CAREER OPPORTUNITIES

Potential career opportunities for Master of Communication and Media (M.C.M.) students exist across a broad range of professional practices, including:

- Communication campaigns
- Communication, information, and knowledge management
- Consumer relations

- Corporate communication
- Education and research
- Employee relations/human resources
- Organizational consulting
- Organizational development
- Organizational research
- Public relations
- Survey/opinion research
- Technology and media management
- Training and development

Demand for such skills exists across the for-profit, nonprofit, and governmental sectors.

The strategic location of the M.C.M. program within the research corridors of northern and central New Jersey and near the greater metropolitan areas of New York City and Philadelphia provide unparalleled opportunities within multiple industries, including:

- Advertising and marketing
- Banking and finance
- Environmental quality assurance
- Health care and pharmaceutical industries
- Higher education
- Information management and new technologies
- International commerce and trade
- Media and telecommunications

To search for all current job and internship opportunities visit the website Career Services at SC&I.

M.C.M. Faculty (SC&I-G)

FACULTY

The Master of Communication and Media (M.C.M.) degree is offered and administered by the Department of Communication and the Department of Journalism and Media Studies, with the M.C.M. Director chosen from among the faculty. The M.C.M. Executive Committee includes representatives from the program faculty who work with the director on all issues related to the program's administration. Teaching faculty includes the full-time members of each of the three departments in the School of Communication and Information: communication, journalism and media studies, and library and information science.

M.C.M. Degree Requirements (SC&I-G)

M.C.M. DEGREE REQUIREMENTS

The Master of Communication and Media (M.C.M.) degree program requires the successful completion of a minimum of 36 credits. This includes completion of:

- A five-course core (12 credits)
- Eight elective courses (24 credits)*

There are required and recommended courses for each specialization. See the website for details.

The M.C.M. degree typically requires four semesters of full-time study: 9 credits per semester is the maximum course load. Study is frequently pursued on a part-time basis. The degree can be accelerated by taking Winter or Summer Session courses.

International Students

International students should visit the Rutgers Global website.

The center 's website includes specifics on rules about Visa status; special forms; orientation; international advisers; and special rules concerning employment and internships.

All international M.C.M. students are STRONGLY ENCOURAGED to attend an orientation session as early in or before their first semester of study.

Curriculum

M.C.M. students must complete 36 credits to earn a degree. The program is self-paced (3-12 credits per semester). There are seven specializations available. Once admitted to the M.C.M. program, students can stay within a specialization or combine specializations to focus on multiple areas of interest.

All core and elective courses in the seven specializations are taught online and/or weeknights on campus, 6:20 to 9:00 p.m. Some electives are cross-listed with the SC&I's Ph.D. program courses as well as the master of information program.

Curriculum Overview (SC&I-G)

CURRICULUM OVERVIEW

Curriculum Overview (SC&I-G)

Core Courses (12 credits)

Core Courses (12 credits)

These five courses fulfill the **MCM Program Core** requirements. All MCM students will take these courses regardless of their specialization. (**12 Credits)**

- 508: ePortfolio*
- 5XX: Communication Ethics (548) or Digital Media Ethics (594)*
- 513: MCM Graduate Experience (0 Credit 3 hour live workshop
- 5XX: Communication Research (514) or Digital Media Research (556)*
- 519: Capstone *

**Those specializing in Digital Media would take Digital Media Ethics and Media Research. All others would take Communication Ethics and Communication Research. The Program also differentiates the Capstone course to allow students to work on papers or projects related to their specialization. Those students specializing in Communications and Media Research are not required to enroll in ePortfolio (508).*

Course sequencing: Students must enroll in 513 in their first MCM semester. Students should enroll in 508 in their first MCM year. Students should enroll in the Research class in the second semester of the first MCM year. Students should enroll in the Capstone (519) in the last semester in the program before their expected graduation date.

Curriculum Overview (SC&I-G)

Experiential Learning (6 credits)

Experiential Learning (6 credits)

All Master of Communication and Media (M.C.M.) students have the option to take up to 6 credits of experiential learning. In these supervised experiences, students will engage with practitioners to learn skills and perspectives. Grades are assigned based on a self-evaluation by the student and a supervisor-evaluation by the practitioner or faculty member. Students may complete this requirement in an online opportunity or in their local area through:

- **Internship:** (150 hours for 3 credits) in businesses, nonprofits, government agencies, and/or Rutgers units/ departments. Students cannot intern at their place of employment.
- **Practicum:** work with faculty in executing cutting-edge research projects.
- **Teaching Internship:** work as an assistant to a professor in a course related to their study.
- **Fellowship:** apply and be selected as a fellow in the Johnson & Johnson M.C.M. Fellowship program. Six of the credits earned in this program may be applied to degree requirements. Fellows have tuition paid and receive a stipend.
- **Projects:** unique projects related to a student's profession or for a selected organization.

Credits of experiential learning count toward the 24 credits of electives for the program.

Curriculum Overview (SC&I-G)

Electives (24 credits)

Electives (24 credits)

Master of Communication and Media (M.C.M.) students select one of the seven areas of specialization. Each specialization has some recommended electives, and students can select other electives to fulfill the M.C.M. 36-credit requirement to tailor their M.C.M. degree to areas of interest.

In addition to the electives made available through specializations, students can request to apply up to 6 credits of coursework from outside the School of Communication and Information as noted above. Students may wish to supplement the M.C.M. program with courses in business, social sciences, or other professional schools.

Curriculum Overview (SC&I-G)

Specializations

M.C.M. Specializations

Communication and Media Studies (available on-campus, online or hybrid)
Communication and media studies is a general specialization in which students take a self-designed course of study that draws across any Master of Communication and Media specialization as well as courses in other areas of the School of Communication and Information. This specialization is ideal for students who want to tailor their M.C.M. program. This specialization also allows M.C.M. students to potentially combine M.C.M. specializations. Courses in organizational communication, mediated communication, health communication, social interaction, knowledge management, and media studies are offered throughout the year. Many of these courses are cross-listed with the school's Ph.D. program or Master of Information program.

Specialization Core Requirements (6 credits)

- 512: Mediated Communication
- 517: Media Studies

Electives (18 Credits)
Recommended Courses
These courses are recommended for this specialization.

- 510 Communication and Society
- 511 Organizational Communication
- 525 Internships

Strategic Organizational and Leadership Communication (available on-campus, on-line, or hybrid)

The Strategic Organizational Communication & Leadership specialization emphasizes theory-informed, research-based study of organizational process, structure, and interaction, as well as use of new communication technologies in organizational and societal contexts. Courses examine organizations in a variety of contexts including businesses,

nonprofits, civil society, and government. This specialization may be especially appealing for those who have goals for careers in organizational leadership, corporate communication, advocacy, administration and/or management, training and development, consulting, change management, stakeholder relationship management, and social media management.
We explore the competencies needed to be an effective communicator in all three main modalities: one to one, one to many and various "e" forms of communication. This specialization may be especially appealing for those who have goals for careers in organizational leadership, want to improve their personal leadership communication skills or add to their professional leadership/management credentials.

Specialization Core Requirements (6 credits)

- 511: Organizational Communication
- 540: Organizational Leadership

Electives (18 Credits)
Recommended Courses
These courses are recommended for this specialization.

- 512 Mediated Communication
- 518 Persuasion and Advocacy
- 525 Internships
- 541 Organizational Decision Making
- 559 Organizational Change & Communication

Other potential electives
525 Internships
532 Dynamics of Global Organizations
534 Organizational Communication Networks
542 Interorganizational Relationships and Stakeholder Communication
544 Organizational Cultures and Diversity
549 Organizational Assessment
566 Small Group Communication
572 Non-Profit Organizations
580 Crisis Communication
5XX Multiculturalism and Leadership: Communication Perspectives
5XX Leadership Communication
5XX Leaderocity: Leading at the Speed of Now

Digital Media (available fully online)
The digital media specialization is intended for journalists and other media or communication specialists who wish to retool and gain understanding of 21st-century media. This includes study of grassroots reporting and advocacy. The specialization will ensure students are conversant in digital video capture, editing, and production as well as social media management. This specialization is completely online, although face-to-face or online electives in other specializations are available to these students.

Specialization Core Requirements (6 credits)

- 509: Digital Media Innovation
- 517: Media Studies: Theory and Practice

Electives (18 Credits)

Recommended Courses

These courses are recommended for this specialization.

- 507 Digital Media Production
- 512 Mediated Communication
- 525 Internships
- 540 Organizational Leadership
- 546 Social Media
- 549 Organizational Assessment
- 551 Children and Media
- 590 Digital Journalism
- 591 Critiquing Marketing Communication
- 592 Digital Advocacy and Persuasion
- 593 Globalization, Media and Social Change
- 598 Digital Media Law and Policy

Health Communication

The health communication specialization is intended for students who wish to specialize in various contexts related to community wellness and health interaction such as public health communication; facilitated provider-patient communication; health campaigns and advocacy; and community health and wellness.

Specialization Core Requirements (6 credits)

- 560 Health Communication
- 561 Patient Provider Communication

Electives (18 Credits)

Recommended Courses **:**

These courses are recommended for this specialization.

- 518 Persuasion and Advocacy
- 525 Internships
- 563 Applied Interactive Research in Health and Wellness
- 566 Social Marketing and Public Health
- 575 Communication and Normative Influence
- 580 Crisis Communication
- 566 Small Group Communication
- 572 Non-Profit Organizations
- 5XX Mental Health
- 5XX Communities and Health

- 5XX Communicating Emotion
- 5XX Health Risk Communication
- 5XX Leadership and Healthcare Teams
- 5XX Health Literacy

Students who have interests in health organizations may wish to combine study in this specialization with study in the strategic organizational communication specialization.

Communication and Media Research

For students intending to continue to PhD studies or who desire a more research oriented focus

The communication and media research specialization is intended for students who wish to take a more research-oriented course of study. It is also designed for those students who may wish to pursue a Ph.D. program after completing the M.C.M. degree. These students have somewhat different requirements (9 credits of core; 3 credits of research internship; 3 credits of Capstone; 21 credits of electives, the 0 credit M.C.M. experience class, and a zero-credit Colloquium requirement). In addition to coursework, these students will be involved in empirical research with a faculty member; assist in teaching a course; and focus their study and capstone project with a research orientation.

Specialization Core Requirements (6 credits):

One of these three courses:

- 510: Communication and Society
- 509: Digital Media Innovation
- 560: Health Communication
- 535: Research Practicum (3 credits)
- Colloquium (0 Credit) one per semester

Electives (18 credits)
Recommended Courses **:**
These courses are recommended for this specialization.

- 525 Internships
- 530 Independent Study
- 543 Organizational Communication Research

Public Relations
The public relations specialization is designed for public relations professionals to enhance their professional credentials or for those who wish to enter this fast-growing and dynamic profession. Courses explore the competencies needed to be an effective public relations practitioner in this dynamic, complex, and social-driven environment. Students learn both the emerging theories of the practice of public relations as well as the skills needed to compete successfully in this profession. Many of these courses are taught by highly experienced senior public relations practitioners.

Specialization Core Requirements (9 credits)

- 545 Public Relations Management
- 5XX Public Relations Strategy
- 576 Public Relations Effectiveness: The Use of Analytics

Electives (15 Credits)

Recommended Courses

These courses are recommended for this specialization.

- 518 Persuasion and Advocacy
- 525 Internships
- 542 Interorganizational Relationships and Stakeholder Communication
- 546 Social Media
- 558 International PR
- 581 Reputation Management
- 5XX PR History and the Modern World
- 580 Crisis Communication
- 566 Small Group Communication
- 572 Non-Profit Organizations
- 578 Strategy and Innovation in Sustainability Communication

M.C.M. Courses (SC&I-G)

MASTER OF COMMUNICATION AND MEDIA COURSES

17:194:500 ***M.C.M. Colloquium (0)***

Attendance at M.C.M.-sponsored or -approved colloquia or workshops, with one attendance required for each course registration each semester.

Required of all students each semester.

17:194:501,502,503,504,505,506 ***Topics in Organizational Communication (3,3,3,3,3,3)***

Elective topics that focus on relevant current issues or problems confronting organizations and individuals such as identity, globalization, and networks. Previous courses have included Corporate Social Responsibility, Conflict and Collaboration, and Communication and Civil Society Organizations among others.

17:194:507 ***Digital Media Production (3)***

This course gives students hands-on instruction in how to use digital media tools to produce interactive and media rich online stories. Students will learn key concepts and design principles in web technologies and programming (e.g., XHTML, CSS, JavaScript), video editing, and animation. Students will develop a website that presents a multipart investigative story, using slideshows, videos, and animations. Students will learn how to capture engaging photo and video footage to create an effective multimedia experience in postproduction.

17:194:508 ***ePortfolio (3)***
Students develop a professional eportfolio that showcases a resume; academic work; professional development courses, certifications, and/or military service; social media and other digital assets; relevant audio/visual material; professional, community, and school activities; and writing samples.
Prerequisites: Completion of all M.C.M. core requirements. Recommended to be taken in the first year of the M.C.M. program.

17:194:509 ***Digital Media Innovation (3)***
Students use emerging digital technology to develop and test innovations in journalism and media. Emerging technologies are applied to journalism and media to create and test new storytelling formats, production techniques, media management strategies, and social media approaches. Students consider how these innovations can engage citizens across time and space, provide much-needed context and customization to content, interactive entertainment, and new business models to support and sustain journalism and the media in a fragmented, and mobile, digital future.

17:194:510 ***Communication and Society (3)***
This course examines the role of communication in society. Taught with a special topics focus in each semester, the course will examine the important impacts that communication processes, relationships, and messages have in society. Topics of focus include corporate social responsibility; community networks; community health campaigns; political communication; and communication in civil society organizations, among others.

17:194:511 ***Organizational Communication (3)***
This course will serve as a broad introduction to theories, perspectives, and empirical evidence related to organizational communication in a wide range of organizations (e.g., nonprofit, for-profit, governmental, communal) and in a variety of contexts (e.g., industry, educational, social services, advocacy). Students will learn about historical, current, and future issues; changes and challenges facing organizations; and the communication-relevant aspects of these issues. They will gain practice in applying theoretical perspectives and concepts to actual organizational situations and settings.

17:194:512 ***Communication and Technology (formerly Mediated Communication) (3)***
Drawing on existing theory and research, this course examines issues of usage, adoption, and performance of new and established communication technologies in the workplace and other contexts. The course also considers opportunities and challenges that mediated communication presents for both users of these tools and society more generally. It also will expose students to a range of new technologies used by people to coordinate, collaborate, and communicate with one another.

17:194:513 ***M.C.M. Graduate Experience (0)***
The M.C.M. Graduate Experience course is a non-credit course that helps new M.C.M. students get acclimated to the M.C.M. program and graduate education. It will offer insights in what is expected in the program, writing at the graduate level, introduction to APA and an overview of research. It will also help in understanding what is expected of M.C.M. students in the classroom, both on-campus and online.

17:194:513 ***M.C.M. Graduate Experience (0)***
All M.C.M. students are required to take the 17:194:513 MCM Graduate Experience course. This is a noncredit three-hour workshop offered in the fall and spring semesters. It also includes a one-week online discussion orientation. This workshop will help new M.C.M. students get acclimated to the M.C.M. program and graduate

education. It will offer insights in what is expected in the program, writing at the graduate level, introduction to APA and an overview of research. It will also help in understanding what is expected of M.C.M. students in the classroom, both on-campus and online.

17:194:514 ***Communication Research (3)***

This course is will introduce students to a set of social science research methods that are used in the communication discipline and in workplace and organizational contexts. At the end of this course, students should have a basic understanding of several general research methods used by communication scholars and have gained an appreciation for the ethical considerations in conducting human subjects research. Students will gain knowledge and practice of collection methods such as questionnaires, experiments, structured interviews, focus groups, structured observations, and content analysis.

17:194:515 ***Public Relations History and the Modern World (3)***
Since public relations became a paid profession in the United States in the early 1900s, the industry has undergone an incredible transformation, especially in the past 15 years with the arrival of social media channels. Public Relations History and the Modern World covers the transformation of the public relations discipline from earned media to the PESO (Paid Media, Earned Media, Shared Media and Owned Media) model and will feature a detailed history review, real-time and real-world applications of the PESO Model, and the opportunity to immerse students in experiential learning by meeting and engaging with leading public relations practitioners and applying what they learn to a real-life client situation.

17:194:516 ***Service, Advocacy and Impact: Purpose-Based Communication for Community Engagement and Corporate Responsibility (3)***
Service, Advocacy and Impact helps students build practical skills in using communication for the greater good. In this course, we will explore the ways that communicators can use their abilities in the context of nonprofit organizations, direct community service provision, or corporate social good. This course will combine instruction, group work and reflection, and a hands-on project with a community organization in order to pair learning with practice. By the end of this course, students will have first-hand, working knowledge of the opportunities and challenges in using communication for public service.

17:194:517 ***Media Studies: Theory and Practice (3)***
This course examines the nature and impact of the media of mass communication in society. Particular attention is paid to emerging media technology, including the internet and other digital technologies. Students learn four primary ways new technology influences media and society, including: 1) how media professionals and members of the public increasingly create content using new media technologies; 2) the nature of mediated content; 3) the relationships between and among media and relevant publics; and 4) the structure, culture, and management of media organizations and systems. Students learn five areas of media technology, including: 1) acquisition tools; 2) storage technologies; 3) processing devices; 4) distribution technologies; and 5) display, access, or presentation tools.

17:194:518 ***Persuasion and Advocacy (3)***
Explores the strategic use of communication by individuals and groups to facilitate persuasion and change. Topics covered vary by instructor, but may include theories of behavior and social change, strategic communication, interpersonal influence and diffusion, media advocacy and social marketing, argumentation, discourse, and conflict.

This course is designed to explore the strategic use of communication by individuals and groups to facilitate change processes. Topics covered include theories of behavior and social change and strategic communication approaches such as persuasive communication, interpersonal influence and diffusion, media advocacy and social marketing.

17:194:519 ***M.C.M. Capstone Seminar (3)***
The Capstone Seminar requires students to integrate theory and practice through the preparation and presentation of an intensive project. Students will design their own original work that includes integrating, synthesizing, and analyzing fundamental communication theories, concepts, and research methods; show proficiency in gathering and using evidence to study and understand communication processes and consequences; demonstrate advanced written and oral presentation skills; apply communication theories and concepts to professional and civic life.

Prerequisites: Students enrolling in the Capstone must be in or near the last semester of study.

17:194:520,521,522 ***M.C.M. Fellow Internship I,II,III (3,3,3)***
Required of M.C.M. fellows each semester of their fellowship placement, includes formal assessment of student by fellowship supervisor.
Open only to students appointed as M.C.M. fellows.

17:194:523,524 ***M.C.M. Teaching Internship I,II (3,3)***
Selected students assist faculty members with delivery and student evaluation of an undergraduate course.
Open only to students appointed as M.C.M. teaching interns.

17:194:525,526 ***M.C.M. Elective Internship I,II (3,3)***
Recommended for students without significant experience in complex organizations; Requires 150 hours of supervised professional practice in an approved organizational setting, with supervisor assessment and student report required.

17:194:527 ***M.C.M. Intensive Internship (6)***
Recommended for students without significant experience in complex organizations; 300 hours of supervised professional practice in an approved organizational setting, with supervisor assessment and student report required.

17:194:528 ***M.C.M. Fellow Internship IV (3)***
Course is required of MCM fellows in the fourth term of their fellowship placement. Includes formal assessment of the student by the fellowship supervisor.
Prerequisites: Open only to students appointed as M.C.M. fellows.

17:194:529 ***M.C.M. Summer Fellow Internship (6)***
Elective course for M.C.M. fellows for summer placement; includes formal assessment of student by fellowship supervisor.
Prerequisites: Open only to students appointed as M.C.M. fellows.

17:194:530,531, 532, 533, 534 ***Independent Study (3,3)***
Focused readings or research conducted independently by student arranged with and approved by faculty sponsor and program director.

Prerequisites: By Special Permission Only.

17:194:532 ***Dynamics of Global Organizations (3)***
This course aims to provide deeper insight into the contested phenomenon of globalization, its implications for today's organizations, and the role of communication in processes of global organizations.

17:194:534 ***Organizational Communication Networks (3)***
Theory, concepts, methods, and analysis for understanding and applying social networks to organizational contexts.

17:194:535,536,537,538,539 ***Practicum (3,3,3,3,3)***
Assistance with an ongoing research project(s) with a faculty member or outside sponsor approved by program director; student summary describing and evaluating the research experience required.

Prerequisites: By Special Permission Only.

17:194:540 ***Organizational Leadership (3)***
Examination of group and organizational leadership from a communicative perspective, integrating both theory and current practice. Topics of focus include leadership roles relative to organizational culture, diversity, organizational assessment, support technology, organizational change, ethics, and leadership and organizational development. The course includes informational and experiential learning approaches.

17:194:541 ***Organizational Decision-Making (3)***
This course focuses on how decision-making happens within and between organizations. It also focuses on how communicative action and communication networks shape decision-making processes and outcomes. The course addresses the design of effective decision-making systems. Topics include individual and group decision-making, problem solving, conflict management, decision and negotiation support systems, decision-making in virtual and networked organizations, and the role of technology in decision-making.

17:194:542 ***Interorganizational Relationships and Stakeholder Communication (3)***
The key issues explored in this course concern the management of interorganizational relationships and projection of organizational reputation, image, and identity to external audiences. The course begins with identification and specification of the external environment(s) of organizations. Readings and discussion explore interorganizational relationships, boundary-spanning communication, and management of external stakeholder relationships.

17:194:543 ***Organizational Communication Research (3)***
Advanced master's-level course focused on the diverse array of topics studied in organizational communication research. We will examine the role of communication in issues of socialization and identification; power, conflict, and control; decision-making and leadership; ethics, performance, and feedback; turnover, burnout, and exit; culture; structure and networks; as well as image and reputation. It is based on theory and research, but will also address application.

17:194:544 ***Organizational Cultures and Diversity (3)***
Development of familiarity with the major theoretical and research orientations to the study of organizational culture. How the construction and management of "culture" is related to power, the representation of interests, decision-making, productivity, personnel development, and social well-being. Investigate cross-cultural relations and cultural change related to global organizational developments.

Prerequisites: 17:194:511 or permission of the instructor

17:194:545 ***Public Relations Management (3)***
Analysis and preparation of case studies in industry, labor, education, government, and trade organizations, and the application of public relations techniques.

17:194:546 ***Social Media (3)***
This course provides a theoretical orientation to communication processes in social media (e.g., Facebook, Twitter, blogs, wikis, and virtual worlds such as Second Life). Readings will be selected from a variety of disciplines, with a major emphasis on mediated communication theory and phenomena. Topics include issues of self-presentation, identity, privacy, youth and social media, political participation, social networks, social capital, virtual worlds, collection action, and uses of social media in the workplace. Methodological and ethical approaches to studying social media data will also be discussed.

17:194:547 ***Public Relations Strategy (3)***
The focus of this course is on being able to clearly communicate the "why" behind each of the four steps in the Public Relations process - Research, Planning, Implementation, and Evaluation. The course will focus on three essential components of PR strategy: informed campaign design, clear messaging, and efficient measurement and evaluation. In addition, the course will address the changing nature of the industry and the challenges and opportunities presented that require PR practitioners to be proactive and flexible regarding strategy. The course is designed to teach advanced public relations skills and features readings, discussion, research, and practice in public relations. It builds on the public relations knowledge and techniques studied in previous courses, therefore requires higher-level/ critical thinking and evaluation and clear application of concepts.

17:194:548 ***Communication Ethics (3)***
This course explores various approaches to ethical behaviors and decision-making and applies them to diverse aspects of strategic communication in professional settings. Students will learn to discern a wide variety of ethical issues concerning communication behavior, apply systematic ethical analysis to various organizational situations, and clearly explain their analyses. The course applies abstract principles to specific cases in applied ethics (deductive approach) as well as using a bottom-up (inductive approach) in developing students' ethical decision-making skills. Students will use the learned knowledge of moral decision-making and begin exploring contemporary topics in strategic communication ethics, such as political communication, public relations, advertising, digital media, marketing and health communication.

17:194:549 ***Organizational Assessment (3)***
Principles and practices in organizational communication and quality assessment in industry, health care, government, and education. Topics include: surveys (communication audits and inventories), Baldrige-based assessment (criteria and application), interpretive approaches (historical analysis, participant observation, and in-depth and focus-group interviewing), and message analysis (content and interaction).
Prerequisites: 17:194:511 and 17:194: 514, or permission of instructor.

17:194:550 ***Telecommunication Processes and Policy (3)***

Applications and policy implications of innovative communication and information-processing technology in business, government, and education; emphasis on political, economic, and legal aspects.

17:194:551,552,553,554,556,557,558,559 ***Topics in Mediated Communication (3,3,3,3,3,3,3,3)***
Advanced topics in mediated communication reflecting current research focus of faculty instructor.
Prerequisite: Based on the individual topics class.

17:194:556 ***Digital Media Research (3)***
This course will introduce you to quantitative, qualitative, and interpretive methods for doing research on digital media (online media, mobile media, and social media) and ethical ways of employing those methods. You will learn about how to apply quantitative, qualitative, and interpretive methods to studies of digital media creation, content, and use, and you will also learn about how digital media companies use research and analytics. At the end of this course, you should have a basic understanding of several general research methods used by digital media scholars and have gained an appreciation for the ethical considerations in conducting human subjects research.

17:194:558 ***International Public Relations***
International public relations is practiced by all types of private, public, nonprofit, activist, non-governmental organizations and institutions. This graduate course includes content and discussions on global issues affecting the public relations profession, the PR professional and the engagement of stakeholders at the home, host, and transnational levels. This course will survey how global public relations strategies are developed and implemented to support advocacy efforts, emphasizing successful case studies and failures. Also, this course aims to introduce and analyze the main concerns affecting the management of the public relations function, such as transnational crises; coordination and control mechanisms trends; practitioners¿ roles, responsibilities, and competencies in a global context.

17:194:559 ***Organizational Change and Communication (3)***
Leaders are often in the position of bringing about change. In the study of organizations and leadership, change is a critical topic. Change does not happen naturally in most organizations, it is a leader-led process. This course takes two perspectives. The first is that organizations are made up of processes. Every day, these processes run and regenerate themselves. Examining them for ways to improve can lead to redesign and ultimately gains in cost saving, customer satisfaction, and improved morale. The second perspective is that a metaphorical force field called culture organizes and shapes organizations. We breathe the air of culture in our work lives each day. Analyzing culture enables us to consider its impact on organizational effectiveness and ability to reach goals. The course will weave together these four critical elements in change - organizational culture, leadership, communication and internal processes.

17:194:560 ***Health Communication (3)***
This class is designed to give an overview of the major fields of study in the area of health communication. This includes the areas of health communication campaigns, multicultural health communication, physician-patient communication, and communication among health professionals. The ultimate goal of health communication is to increase health and satisfaction by encouraging healthier behaviors, medical compliance, and more efficient communication of medical information.

17:194:561,562,563,564,565,566,567,568,569 ***Topics in Communication and Health (3,3,3,3,3,3,3,3,3)***
Advanced topics in communication and health reflecting current research focus of faculty instructor.

17:194:565 ***Science, Media & Society (3)***
This course will consider the intersections of science, media, and society. With a focus on both theory and practice, we will explore the media's role in how we understand and communicate about the most critical science issues of our day. Course topics include: public understanding of science; representations of science in journalism and popular culture; the media's influence on public engagement with science; the strategic uses of media to communicate about science. Special emphasis will be given to understanding the media's role in shaping perceptions of controversial science issues.

17:194:566 ***Small Group Communication (3)***
In this class, small group interaction is examined in depth, including observation, interpersonal activity, group systems, conflict resolution, and listening. The focus is on practical, business, and organizational group activities in real-world situations to prepare students to understand, effectively participate in, and control group dynamics.

17:194:567 ***Mediated Health Communication (3)***
This course provides an overview of theory and research related to the role of the media in promoting public health efforts and advances. The course reviews theories of health behavior change and message effects, and discusses applications of these theories to media-based health initiatives. Through the course, the students will examine the interplay among theory, research and practice and further discuss how theory informs practice and how research aids in theory construction and refinement..

17:194:568 ***Health Messages and Campaign Design (3)***
This course considers the design, implementation, and evaluation of public health communication programs that aim to influence the health-related behaviors of individuals, groups, and communities. The first part of the course reviews the theoretical foundations of public health communication campaigns, including key theories of health behavior change and communication theories that augment them. The second part introduces students to key planning and design considerations of successful public health communication campaigns. The third and final part of the course engages students with the versatile communication strategies and skills that health communication professionals employ routinely to influence people's health-related decisions and behaviors.

17:194:569 ***Interpersonal & Relational Facets of Health Communication***

This graduate seminar examines issues of interpersonal dynamics when talking about health and healthcare. Discussion centers on the role of communication in healthcare interactions and examine how communication can facilitate, hinder, or create inequities of care that occurs among patients. The course will review communication among clinicians, patients, and significant others and families. Themes of discussion include patient-provider communication, culture in healthcare, medical mistrust, health literacy, and the role of close others in managing healthcare.

17:194:570 ***Interpersonal Communication (3)***
This class focuses on the foundational and contemporary research that makes up the study of interpersonal communication. Its primary goal is to give students an understanding of the origins and the current directions of much of the scholarship on interpersonal communication.

17:194:571,572,573,574,575,576,577, 578, 579 ***Topics in Social Interaction (3,3,3,3,3,3,3,3,3)***
Advanced topics in social interaction reflecting current research focus of faculty instructor.

17:194:576 ***Public Relations Effectiveness and Analytics (3)***
This course examines the process of evaluating the public relations function. It provides students with practical guidelines for evaluating and analyzing the effectiveness of public relations campaigns. Students will connect communication measures of effectiveness to business results, including being able to calculate ROI. By implementing best practices for conducting research methodologies, students will be able to interpret and report findings to determine campaign effectiveness. Students will also analyze historical, award winning PRSA case studies, to thoroughly understand the Barcelona principles and apply contemporary measurement tools to current case studies. The analysis and discussion of real-world case studies will serve as context for the applied understanding of how and why to evaluate a public relations campaign.

17:194:577 ***Creating Social Impact: A Stakeholder Framework Approach(3)***
Changing beliefs about the role of business in society in the past thirty years have increased the pressure on organizations to define how it addresses higher purposes beyond financial gain. This is particularly relevant as companies are making long-term commitments to improving the world through mechanisms like the Sustainable Development Goals (SDGs). The success of an organization depends on the quality of its relationships with different stakeholders including NGOs and governments. More specifically, an organization develops its activities through a stakeholder network, which affects and is affected by the organization's behavior. Therefore, the concepts of sustainability, organizational purpose and corporate social responsibility (CSR) are becoming more and more crucial. The course aims at defining CSR and how organizations create social impact. The course will look at new managerial solutions and new performance evaluation and reporting methodologies capable of integrating and improving traditional economic measures. Therefore, the concepts of sustainability, organizational purpose and corporate social responsibility (CSR) are becoming more and more crucial. The course aims at defining CSR and how organizations create social impact. The course will look at new managerial solutions and new performance evaluation and reporting methodologies capable of integrating and improving traditional economic measures.

The purpose of the course is to build a new vision of social impact based on a stakeholder framework. Whether CSR is understood as organizations taking responsibility or society holding organizations accountable, the underlying issues are how about the environmental, social, and governance opportunities and risks that have emerged in today's globalized, networked world will be explored.

17:194:578 ***Strategy and Innovation in Creating Social Impact (3)***
Through a comprehensive discussion of sustainability communication strategies, media and messaging, this course focuses on how organizations communicate corporate social responsibility to their publics. This course examines the powerful new trends in public-private partnerships and new models of private sector interventions in society including responding to Sustainable Development Goals (SDGs). The course explores the intersection of communication, stakeholder engagement and social impact. This course will help students understand how organizations behave in society and the role of the citizen as stakeholder and consumer in helping to influence organizational behavior. Topics covered include: 1) Crowdfunding; 2) Social Impact Bonds; 3) Competitions and Prizes; 4) Philanthrocapitalism; 5) B-Corporations and Social Enterprises; 6) Pro-bono contributions from the private sector; 7) Use of AI in social impact efforts; 8) Circular Economy; 9) Sustainability investing, and (10) Communication across diverse stakeholders.

17:194:579 ***Social Impact Communication (3)***
What is social impact? How does social impact further the work of NGOs / organizations seeking to do good? What is the benefit in terms of corporate reputation? How is it measured? What are the most appropriate ways to communicate about social impact? This course provides an overview of social impact from the perspectives of both the corporate world and NGOs / organizations that are enabled by corporate social impact engagement. Through publications, case studies, interviews with those involved in social impact activities and team projects, we will assess the influence - positive and negative - social impact can have on the reputation of a corporation. Students will come away with a clear understanding of what social impact is and what it is not, how it can be measured in terms of reputation, and the criticality of appropriate communications related to social impact activities.

17:194:580 ***Crisis Communication (3)***
This course will focus on various elements of crisis and issues management. In an age when a company's every move is subject to instant scrutiny and attack, the necessity for effective crisis management is greater than ever and more

complicated. The structure of the course revolve around the crisis management process: prevention, preparation, response and long-term. Emphasis will be placed on practical application of crisis communications theory, with the use of real-life case studies, role playing and guest lectures by crisis expert practitioners.

This course examines a variety of communication techniques and principles used when an organization faces issues, and or incidents that negatively impact the organization's reputation. Major aspects of this course will include: the definition of crises in its various forms, the stages of a crisis, the role of the spokesperson and the impact of social media and the crisis response, among others.

17:194:581 ***Reputation Management (3)***
This course will demonstrate the importance of reputation management as a practice to better ensure organizational health and mitigate risk by augmenting crisis/risk management work. Often environmental scanning - a key reputation management practice - can make strategic communications professionals aware of potential crises, so they can head them off before they occur.

Of particular significance is understanding how the advent of digital media presents a new reputational risk where anyone with a social media account or website can attack or support an organization.

Throughout this course, we will explore reputation management through an ethical lens. Not only are ethics an important human quality, but if organizations behave ethically, they are more apt to steer clear of reputational dilemmas. We also will approach this class taking diversity and inclusion into account and working to incorporate these important values into reputation management practices.

17:194:582 Patient Provider Communication
This graduate seminar is concerned with how communication scholars have contributed to (and can best contribute to) the study of patient-provider communication and ultimately better patient-provider relationships. What transpires during the clinic visit can have a profound effect on how patients understand their health concerns, make healthcare decisions, and effectively achieve desired health outcomes. This course introduces students to the field and findings of patient-provider communication starting with the historical and social climates influencing patient-provider partnerships.

17:194:590 ***Digital Journalism (3)***
Digital Journalism is a hybrid hands-on and conceptual course designed to help master's-level students develop introductory-level skills in multimedia reporting (using text, still images, and video), while gaining an understanding of the foundational philosophical, ethical, and legal principles underlying the practice of journalism in the 21st century.

17:194:591 ***Critiquing Marketing Communications (3)***
Marketing communications pervade nearly every aspect of modern life in consumer society, from broadcast commercials to public relations to product design and packaging to online search marketing. As our economy shifts from a manufacturing base to an information base, this process is accelerating. With the increasing capacity to track, profile, and target consumers across media, we ourselves have become the product, the medium, and the message. This fact, in turn, has influenced the very nature of the human experience. Friendships, identities, and even the most intimate of relationships are now mediated through channels in which marketing is not only present but central. In short, you might say we live in a hypercommercial society. What are the political, economic, and social implications of this change? How are new technologies contributing to, and changing, this process? How can we, as citizens of this consumer society, navigate these complex issues? What costs and benefits accrue from the

increasingly commercial environment in which we live? In addition to addressing these issues in readings and online class discussions, we will collectively develop and maintain a public blog dedicated to discussing, dissecting, and critiquing marketing communications of all kinds.

17:194:592 ***Digital Advocacy and Persuasion (3)***
This course explores how political, economic, and social actors leverage emerging communications media to pressure and persuade one another. Participants will gain a deeper understanding of how to use new media tools for digital advocacy and persuasion, and will also develop a critical perspective on how these tools are changing society.

17:194:593 ***Globalization, Media, and Social Change (3)***
The last 30 years have seen a fundamental transformation in society. Characterized as a transformation from industrial to informational, this new system is marked by the increased velocity and fluidity of capital, goods, people, and ideas. Facilitated by new information and communication technologies (ICT), the increased flows of both objects and ideas have led to shifting notions of identity, nation, democracy, and society among others. In this class we seek to more fully understand the shifting nature of society today particularly as this new and complex world intersects with media and communication. We pay particular attention to considering the different causes for change in society, as well as the new complex human- and, at times, computer-mediated configurations. Finally, we focus on how these shifts are both impacted by and impact media and communications.

17:194:594 ***Digital Media Ethics (3)***
Examines theoretical underpinnings of ethical problems and applied case studies specific to digital media. Considers how different moral philosophies apply across cultures and across different contemporary media practices and platforms in areas such as advertising, promotional marketing, big data, software and interface design, and fake news.

17:194:595 ***Creative Community Engagement (3)***
Social or community-engaged storytelling is rooted in empowering a community to lead the telling of its own story. This class looks at ways in which those stories facilitate a community or constituent messaging outcome. Those who practice creative engagement serve as stewards for a greater narrative. Students will have the opportunity to work with local advocacy organizations and artists around issues of houselessness and economic vulnerability, racial justice, and environmental resiliency. The culmination of the class will task groups of students to develop the full design of a new project proposal in response to one of these advocacy issues.

17:194:596,597 ***Topics in Media Studies (3,3,3)***
Advanced topics in media studies reflecting current research focus of faculty instructor.

Prerequisites: Based on the individual Topics class

17:194:598 ***Digital Media Law & Policy (3)***
This course examines the exciting world of law and policy relevant to digital media: the Internet, mobile media, and social media. We will answer such timely questions as:

- Why have you been getting all those emails telling you that websites or apps "value your privacy" and want you to click "OK" on a statement about your data?
- Why did a federal court rule in May '19 that President Trump violated the First Amendment rights of Twitter users when he blocked them?
- What was behind the "delete Facebook" movement of spring 2018?

- Could you successfully sue someone for libel if that person said something false and reputation-harming about you on social media?
- And others.

17:194:599 ***Media and Popular Culture (3)***
The purpose of this course is to provide a critical understanding of popular culture's role in society. The course introduces a range of theoretical approaches to study popular culture, exploring the intersections between everyday life, media, and broader political and historical contexts within (mostly) the United States.

We will examine the history of mediated pop culture, the commercial and social aspects of its texts, and the cultural industry's influence on social relations and values. Drawing on theoretical concepts and concrete examples, we will delve into cultural texts and practices in an attempt to reveal the social processes that exist beneath the surface.

Ultimately, this course will provide the tools to study media and popular culture (e.g. television, music, games, film, advertising, and social media). The course will expand notions of popular culture by focusing on digital media dimensions via examples and approaches.

Master of Information Program (SC&I-G)

MASTER OF INFORMATION PROGRAM

Rebecca Reynolds, Chair, Department of Library and Information Science

Lilia Pavlovsky, Director, Master of Information Program

Please visit the Master of Information Program website.

M.I. Program (SC&I-G)

M.I. PROGRAM

The design of the Master of Information (MI) program engages students from a wide variety of professional and academic contexts to focus on information: its creation, organization, classification, retrieval, preservation, management and use. Built upon the values and foundations of Library and Information Science, the MI program focuses on the integral relationships between people, information and technology.

Intense Preparation for a Dynamic Field

The MI program prepares students for careers and leadership in a broad range of information and technology fields and institutions, focusing on people-centered information professional practice, social good, creativity, innovation, and local and global reach with impact.

- 36-credit program
- 1.5 to 2 years with full-time study (at least 9 credits/term)
- 2 to 3 years with part-time study (fewer than 9 credits/term)

- 100% online option (not self-paced, but the format is asynchronous)
- Faculty actively engage within the virtual classroom through discussions, projects, lectures, group work, etc.
- On-campus classes meet once a week (currently working toward offering more on-campus courses)

Concentrations Span the Profession

The MI program offers areas of concentration built around your career goals.

- Archives and Preservation
- Data Science
- Health Information
- Human-Computer Interaction
- Library and Information Science
- School Librarianship
- Technology, Information and Management
- Design your own pathway

Program Goals

The program prepares students for leadership in librarianship, archives, and information science careers by fostering future-focused knowledge, skills, and professional dispositions applicable across the information professions. Students may develop specialized expertise aligned with their career interests through MI Concentration Area courses as listed above or by electing a “Design-Your-Own" personalized study track with faculty guidance.

Outcomes

Through their learning experiences in the MI program, students will develop knowledge, skills/expertise and learn best practices in each of the following Outcome Domains:

1. Information Practices and Needs of Diverse Populations

Specifically, students will be able to:

- Analyze the impacts of cultural, social, and demographic factors on information behaviors to understand diverse community needs, by applying foundational and new knowledge, theories, models, and concepts;
- Evaluate information resources for cultural sensitivity and representation;
- Identify, analyze and mitigate potential barriers to information access across diverse communities and environments served (physical, digital);

2. Effective, Fair, and Socially Responsible Organization and Design of Information Services, Systems, Technologies and Solutions

Specifically, students will be able to:

- Create, evaluate, design, and test human-centered, inclusive information and technology systems and services, organizational structures, classification schemes, metadata, policies, etc. that support inquiry, discovery and knowledge-building;
- Incorporate features and affordances that prioritize user privacy and agency, balance standardization with cultural responsiveness, and limit biases and exclusionary practices.

3. Key Democratic Norms, Standards, and Ethics integral to the Information Professions

Specifically, students will be able to:

- Implement, evaluate, apply, and uphold ethically and democratically grounded policies and professional practices and standards in information work.;
- Assess and implement policies and practices in information settings, demonstrating ethical adherence to democratic values and professional standards;
- Demonstrate a commitment to intellectual freedom and equitable access across diverse communities.

4. Equitable and Sustainable Access to Information and Knowledge in Multiple Contexts

Specifically, students will be able to:

- Disseminate, share and preserve physical and digital resources and keep services useful now and into the future, for all communities including those with limited broadband;
- Assess the sustainability of information technologies and services that are good for the environment, make sense economically, and treat everyone equitably.

5. Evidence-Based Assessment and Evaluation of Information Systems, Programs and Services

Specifically, students will be able to:

- Design and implement evidence-based measurable protocols and indicators to evaluate the effectiveness of information systems, programs, instruction, and services;
- Translate findings into actionable strategies to measure impact and inform improvements;
- Apply multiple research methods to analyze user experience data to identify and mitigate accessibility and equity gaps.

6. Responsible and Engaged Leadership in the Information Professions

Specifically, students will be able to:

- Lead initiatives in the information professions by driving ethical, responsible, and equity-oriented practices;
- Identify, articulate, and pursue leadership opportunities and ongoing learning at all levels within information organizations;
- Create inclusive leadership and training opportunities, develop partnerships with communities and constituents, and implement approaches to institutional change that center equity and inclusion.

In Good Company

SC&I's MI is one of the most respected programs of its kind and has a strong network of alumni professionals.

Dual-Degree I.T.I./M.I. (SC&I-G)

DUAL-DEGREE I.T.I./M.I.

The dual-degree pathway allows students to earn an information technology and informatics (I.T.I.) major within a bachelor's degree and a master of information degree in five years of continuous study. Students who have completed at least 90 credits may apply and be considered for admission into the dual-degree pathway to the master of information (M.I.) degree.

Benefits

- Allows students to gain a head start on graduate work during the senior undergraduate year by taking 12 graduate credits.
- Saves on tuition since the graduate courses taken during the undergraduate years are billed at the undergraduate tuition rate.
- Allows students to maintain continuity with their faculty, university resources, and research facilities while completing a master's degree.
- Gives students a competitive edge in the marketplace and increases earning potential.

Application Criteria and Process

Students must meet the following criteria and complete the following processes to be considered for admission to the dual degree program:

- Must be an I.T.I. major who has completed at least 90 credits.
- Must have and maintain a GPA of 3.0 or above.
- Submit an online application through the Graduate Study portal.
- Submit essay responses to questions presented in the online application.
- Submit an official copy of their transcript.
- Submit one (1) letter of recommendation from a professor in their major.
- Must have four to five courses (i.e., 12-15 credits) remaining to complete the elective requirements for the I.T.I. major.

To submit an online application and documents, visit here.

- Select "Library and Information Science" in the Program Selection section.
- Select the 5 Year Degree Option
- Select the fall semester of your senior year

Students must earn a grade of a B or higher in the graduate courses for them to be counted toward the M.I. degree.

Final admission decisions will be made after the deadline dates listed in the application portal. Admission decisions are based on evidence of high achievement.

How the Pathway Plan Works

If accepted into the 5-Year IT & Informatics/MI program, students will be considered as an undergraduate student who is taking Master's courses, which will count towards general electives or 400-level IT & Informatics electives in the senior year. During this time, students need to fulfill all undergraduate requirements. Upon graduation with a Bachelor's Degree, students will then transition into the Master's program and therefore be subject to the processes and requirements associated with that status.

Year 4: Your Senior Year

Once admitted, students will take two graduate courses per semester in addition to completing all undergraduate requirements. Those courses will be selected based on the concentration of interest and MI program requirements. After successful completion, those four courses (12 credits) will count both as undergraduate (IT & Informatics or general electives) and graduate (MI) requirements. Upon successful completion of coursework in the senior year, students will graduate from the undergraduate program and transition into the graduate program as an MI student.

Year 5: Your "+1" Year

In the final year students have a faculty adviser, who is the concentration coordinator for their concentration. In this final year, students will be expected to take the appropriate credits for MI program requirements (24 credits total / 8 courses). It is possible to take classes during the summer and winter sessions, if appropriate.

Grading in the 5 Year ITI/MI Program

Grades awarded for graduate course work are; A, B+, B, C+, C, F; or pass/no credit in some designated experiences. There is no D in the graduate grading rubric.

Grades earned in the 5-year program are factored into a student's GPA the same as undergraduate grades.

In the MI program, grades above B are accepted. Students are allowed two grades of C towards the degree. Please review the Academic Standing information listed in this catalog for further details. Grades of C+ or C are considered a "red flag" and can result in probation.

Helpful Contacts

For 5-Year Dual Degree program questions, reach out to the Graduate Student Support Team in the school's Office of Student Services. Students will specific questions related to undergraduate requirements should contact SC&I Undergraduate Advising.

Concentrations and Careers (SC&I-G)

CAREERS IN INFORMATION PROFESSIONS

The master of information (M.I.) degree program prepares students for a range of career trajectories.

Library and Information Science

The concentration prepares professionals for a career in school, public, special, and academic libraries, grounded in values of serving communities and building knowledge and literacies. Potential careers include:

- public librarian (youth services, adult services, library management, etc.)
- school librarian
- academic librarian
- entrepreneur
- government information specialist
- special librarian (business, law, etc.)
- cultural preservation specialist
- information and knowledge manager
- information broker
- library planning and technology consultant
- researcher and evaluator
- archivist/curator
- digital library specialist
- metadata specialist

Archives and Preservation

This concentration prepares students to assume the responsibilities and roles in identifying and preserving analog and digital records as trustworthy evidence and memory of the activities of individuals, families, and organizations. Students learn how to make records accessible to current users and future generations in heritage institutions and how to make them available to the public. Students will explore the institutions preserving cultural and scientific knowledge amid the changing perspectives and in diverse social contexts. They will learn about the tensions around privacy, access, and memorial contestation as well as about the role of records, documents, and archival institutions in human rights and social justice. Potential careers include:

- librarian/archivist
- digital asset manager/digital archivist
- museum librarian/archivist
- digital curation and special collections librarian

Data Science

This concentration prepares information professionals for diverse careers centering on data analytics. These careers focus on engaging with an organization's often large-scale internal and external data to analyze, model, evaluate, and predict information behavior and processes. The information behavior and processes are examined for practical applications, product and service development, and organizational decision-making. Potential careers include:

- data analyst
- data scientist
- data asset manager

- metadata specialist
- policy data analyst
- environmental data specialist
- business intelligence analyst
- data visualization specialist
- data security analyst

Interaction Design and Informatics

Prepares information professionals for careers related to interaction design, user experience, human-computer interaction, and beyond. Students will learn a rigorous design thinking process consisting of problem identification, solution design, and iterative prototyping to develop expertise in leading the future of human and technology interactions. Potential careers include:

- information architect
- chief design officer
- usability manager
- usability designer
- web designer

Technology, Information, and Management

This concentration prepares information professionals to lead and manage in technological organizations and other sociotechnical environments, by developing expertise in information and project management, knowledge sharing, organizational learning, and strategic decision-making. Potential careers include:

- applications manager
- digital asset manager
- data governance steward
- database administrator
- records and data manager
- information architect
- metadata analyst
- project manager
- research analyst
- search engine optimization specialist
- senior IT consultant
- knowledge manager

M.I. Admissions (SC&I-G)

M.I. ADMISSIONS

M.I. Admissions (SC&I-G)

Admissions Application

Applications

Entry into the master of information (M.I.) program is competitive and dependent on the quality and academic promise of the pool of candidates. In evaluating credentials, the admissions committee looks for the candidate's potential for graduate study and service to the profession.

Applicants should consider which pathway best meets their needs in order to apply to the best option:

- Online: The online program is designed for part-time study. If students wish to take more than three courses per semester, an application should be made to the campus program. Not all courses in the M.I. are offered online.
- On-campus: The M.I. program is offered on the New Brunswick campus of Rutgers University and offers the full range of courses. Students may enroll full time or part time.

The M.I. program requires a total of 36 credits and must be completed within three years. As a part-time student taking two classes (6 credits) per semester, it will take three years (six semesters) to complete the program. As a full-time student taking three classes (9 credits) per semester, it will take two years (four semesters) to complete the program. Many students take advantage of Summer and Winter Session courses to decrease the time to completion.

REQUIRED ELEMENTS OF THE APPLICATION

Résumé or CV

A résumé describing employment history, academic honors, scholastic recognition, publications, leadership roles, and/or other academic, professional, and community activities.

Transcripts from Undergraduate and Any Graduate Study

Overall undergraduate cumulative grade-point average (GPA) of 3.0 is typically the minimum requirement, though applicants with lower GPAs are encouraged to apply and should discuss their GPA and undergraduate learning experiences in the personal statement.

Have transcripts sent to:

The Office of Graduate and Professional Admissions
Rutgers, The State University of New Jersey
56 College Avenue
New Brunswick, NJ 08901

Standardized Tests

Applicants to the program are generally expected to take the Graduate Record Exam. GRE target scores for the program are:

Verbal = mid-150s+
Quantitative = mid-140s+
Writing = 4.0+

GRE scores:
No GRE required if

- **you have an undergraduate GPA of 3.0 or higher**
- **you have another graduate degree**

International Applicants
For international applicants, English Proficiency Test Scores are required in addition to Standardized Test scores. The TOEFL and IELTS are the tests that are accepted. Scores should be three years old or less. The English proficiency test requirement may be waived for students who earned a bachelor or master's degree from an accredited U.S. college or university.

Expectations:
TOEFL = 80+ (IBT), 600+ (PBT)
IELTS = 6.5+

Send TOEFL or IELTS scores to School Code 2790 and leave the department code blank.

Satisfactory English proficiency is a prerequisite for graduate study at the university. Applicants of questionable English proficiency will be required, if necessary, to take coursework in the English as a Second Language program before commencing their M.I. studies.

Non-immigrant students must present evidence of adequate financial resources as well. The university may deny admission to non-immigrant students for lack of English proficiency, lack of financial support, or because of improper visa status.

For further test information, contact TOEFL, Educational Testing Service, P.O. Box 6151, Princeton, NJ 08541.

Recommendations

Two letters of recommendation are required. Letters of recommendation should focus on the academic capacity of the candidate (e.g., problem solving, critical thinking, analytical, and reflective skills) to undertake a rigorous program of graduate study, rather than on workplace efficiency and character traits.

The recommender's relationship to the student must be established in the letter of recommendation. Personal friends, clergy, and family members are not appropriate recommenders. Applicants will be asked to supply the names and email addresses for all recommenders during the online application process.

Personal Statement

A personal statement is required as part of the admissions process. In approximately 750 words, applicants should state their interests and career aspirations in pursuing the master of information degree.

Application Fee

A $70 nonrefundable application fee is required.

For More Information

Other information about applying to the program may be found on the program website.
To access the application form, visit the website of the Office of Graduate and Professional Admissions.

M.I. Admissions (SC&I-G)

Admissions Deadlines

Deadlines

Applications are considered on a rolling basis. Applications must be complete to be considered for admission.

To start in September

U.S. resident deadline: August 1 (To be considered for scholarships, apply by February 1)
International student deadline: July 1

To start in January

U.S. resident deadline: December 1
International student deadline: November 1

To start In May (Online Only)

U.S. resident deadline: April 15
International student deadline: March 15

M.I. Admissions (SC&I-G)

Admissions Notifications of Decisions

Notification of Decisions

Applicants will receive written notification of admission decisions from the Office of Graduate and Professional Admissions. Notification may list certain conditions that must be satisfied prior to registration unless otherwise indicated. Students who wish to defer admission to a subsequent semester should contact the program director. Ordinarily, admission may be deferred up to one year; after one year, a new application is required.

M.I. Admissions (SC&I-G)

Admissions Transfer of Credit

Transfer of Credit

A maximum of six (6) previously earned credits of graduate coursework may be transferred to the master of information (M.I.) program under the following two options:

1. Credits may be transferred from a graduate program of library and information science accredited by the American Library Association (ALA) if the work was completed with a grade of B or better within three years prior to admission to the Rutgers M.I. program. Verbal approvals will be granted for course transfers that align to specific courses in the M.I. curriculum upon admission to the program, and credits will be transferred after successful completion of one semester of study at Rutgers.
2. Credits may be transferred from master's-level courses earned at Rutgers University or master's-level courses earned from a master's program from an accredited institution with a grade of B or better within three years prior to admission to the Rutgers M.I. program. Requests should be submitted after the completion of 12 credits.

Practicums and independent studies cannot be transferred.

All requests are subject to approval and specific requirements of program pathways.

Current students wanting to take master's courses outside the program must have the approval of the director of the program to count the credits toward the degree. Students must provide a copy of the course syllabus, a brief statement of how the class aligns with the student's academic/professional goals, and written approval from an academic adviser or concentration coordinator prior to registering for the class. Students are responsible for reaching out to external program/faculty to obtain permission to take the class.

Any course completed outside the M.I. program without explicit advance approval will not be applied toward the degree or computed in the grade point average.

To determine if transfer credits are possible, students with potential transfer credits must submit the following;

1. A cover letter identifying the credits and including an explanation of why these courses are relevant to the M.I. degree and the student's professional goals.
2. Course descriptions and/or syllabi for each of the courses.

Courses for transfer credit will be evaluated by the program director in consultation with the admissions committee and/or concentration coordinator. Students should submit transfer credit requests to the Office of Student Services at mi@comminfo.rutgers.edu. The Office of Student Services will notify students of the outcome within four weeks of the request date.

For the most current information about admissions, visit the website.

M.I. Admissions (SC&I-G)

Admissions Nonmatriculated Students

Nonmatriculated Students

The master of information (M.I.) program does not generally allow students to enroll in classes before being admitted formally to the program. However, more information may be found on the School of Communication and Information website.

M.I. Financial Aid (SC&I-G)

M.I. FINANCIAL AID

Students interested in financial support from Rutgers University or external sources are urged to file the Free Application for Federal Student Aid (FAFSA) each year since it is generally required for consideration for both School of Communication and Information and Rutgers financial assistance. Any awards for which financial need is a criterion require submission of the federal FAFSA form by March 15. Information may be found online.

For further information on financial aid including how to apply for aid, sources of financial aid, and restrictions on financial aid and employment, visit the Costs and Financial Aid website.

The School of Communication and Information (SC&I) offers a limited number of scholarships and fellowships to graduate students each year. The school is continually seeking funding from outside agencies and donors, and awards vary each year. Continuing students are notified early each spring about awards available for the upcoming year, and students are able to submit an application for any scholarship for which they are eligible. For details about SC&I scholarships offered in the most recent year, see the School of Communication and Information website.

Some graduate students at the university are supported by fellowships funded by sources outside the university. Students should consult standard reference material for sources of non-university fellowships. Students should also contact clubs, fraternal, religious, and national professional organizations and local interest groups for possible aid through stipends and tuition credits. A student who receives any of these awards is required to notify the Office of Financial Aid.

SC&I and other academic departments at Rutgers hire graduate students as adjunct faculty members or instructional assistants to teach undergraduate students. SC&I and administrative offices around the university sometimes also hire students for staff support functions. Students who are interested should contact the appropriate departments to check for availability, or check these websites:

- Student employment website
- Rutgers Career Services with its MonsterTrak website

M.I. Faculty (SC&I-G)

M.I. FACULTY

The master of information (M.I.) degree is offered and administered by the Department of Library and Information Science, with the director chosen from among its faculty. Teaching faculty include the full-time members of the department as well as adjunct faculty who are practitioners in the field.

M.I. Degree Requirements (SC&I-G)

M.I. DEGREE REQUIREMENTS

A minimum of 36 credits, or 12 courses, is required to earn the master of information (M.I.) degree. With approval, students may transfer up to 6 credits into the program as outlined in the Admissions section of the catalog.

Full-time study at 9 credits or more per semester results in degree completion in one-and-a-half to two years. Part-time study of fewer than 9 credits per semester results in two to three years for completion. The maximum credit load in any semester is 15 credits.

All students are expected to complete the degree within three years.

The full range of M.I. courses are offered on campus in New Brunswick; select concentrations and courses are available online, including the school library media program.

Both on-campus and online students should consult with their advisers regularly to plan their studies to meet degree requirements and career objectives.

Master of Information Requirements

1. Students pursuing school library certification must follow the prescribed course plan listed in the school library course of study which is approved by the State of New Jersey and is required in order for a student to be eligible for school library media certification.

2. All students except those specializing in school librarianship must take two foundation classes. Students should enroll in one foundation class and the technology requirement class in their first semester. The foundation courses are:

- 17:610:510 Human Information Behavior
- 17:610:520 Organizing Information
- 17:610:570 Management Principles in Information Organizations
- 17:610:580 Knowledge and Society
- 17:610:581 Social Informatics

3. All students must complete the technology requirement course 17:610:550 Information Technology for Libraries and Information Agencies within the first 12 credits. Students may ask to waive this requirement if they possess the basic competencies of this course. They will be tested by the course coordinator for the waiver.

4. All students must complete three 0-credit classes:

- 17:610:501 Introduction to Library and Information Professions (This course should be completed in the first semester of study, or for students admitted in the summer, in the fall semester.)
- 17:610:502 Colloquium in Library and Information Studies (This course should be completed in the last semester or late in the program.)
- 17:610:503 ePortfolio Capstone (This course must be taken in the last semester of study.)

5. All students must complete 36 credits.

Transfer Credits

Students can transfer up to 6 credits from outside the MI program. Those credits can come from another Rutgers program (for example, from the Graduate School of Education, the Bloustein School of Planning and Public Policy, Computer Science, etc). The transfer credits can also be taken at another ALA-accredited program or program accredited by another institution.

Concentrations

Students may choose to select a concentration within the program. Upon fulfillment of the concentration requirements at graduation, the transcript will reflect both the degree and concentration completion. Please see the Concentrations section of this catalog for details.

M.I. Degree Requirements (SC&I-G)

Course Waiver Policy

Course Waiver Policy

Students who, because of prior study and/or experience, believe that they possess the competencies covered in a course may request to be excused from taking the course. The student should make the request to the course coordinator and should be prepared to discuss his or her knowledge and skills related to the course content with that faculty member. The course coordinator may ask the student to take an assessment examination. If the student's request is based on prior coursework, the coordinator may ask for a copy of the course description and also should consult the student's official transcript. If the course coordinator agrees to the waiver, the coordinator places a note to that effect in the student's file and gives a copy of the note to the student. If the coordinator does not agree to a waiver and the student wishes to appeal that decision, he or she should make such appeal to the chair, who will put the issue to other instructors of the course. The majority view prevails. Waiver of a course does not reduce the number of credits required for the master of information degree. It allows a student to take advanced classes that list the waived class as a prerequisite.

Other Academic Opportunities (SC&I-G)

OTHER ACADEMIC OPPORTUNITIES

Other Academic Opportunities (SC&I-G)

Field Experience/Internships

Field Experience/Internships

Faculty urge all students who have not had significant experience in an information setting to apply for 3 credits of supervised professional field experience (17:610:592). Students complete this work in a wide variety of public, academic, and special library and information service agencies. Students must have completed at least 15 credits in the master of information (M.I.) program before they are eligible for field experience. Consultation with the field experience coordinator is necessary well in advance, early in the semester prior to the intended coursework, in order to make necessary arrangements.

Field experience is mandatory for school library students. International students seeking to do a field experience must consult the program director and Rutgers Global Student Services office prior to enrolling in the field experience course.

Individual Study

Individual Study

Students who wish to engage in special projects or special individual study in areas not covered by regular courses may apply for up to 6 credits of individual study (17:610:591,593). The student must submit a brief statement in writing of his or her proposed investigation, with a preliminary outline of the methodology to be used. The study must be approved by the faculty member who agrees to supervise it. Individual study is normally pursued toward the end of the master's program.

M.I. Courses (SC&I-G)

MASTER OF INFORMATION COURSES

17:610:501 ***Introduction to Library and Information Professions (0)***
A brief orientation to the Rutgers M.I. program, the information professions, basic concepts and vocabulary, and the literature of the field. ***Required of all students at the beginning of the first semester of study.***

17:610:502 ***Colloquium in Library and Information Studies (0)***
A series of lectures with discussions, featuring guest speakers, that highlight current and recurring issues and introduce students to leaders in the field.
Required of all students during a fall or spring semester late in their program of study. Students must attend at least three offerings. No credit given.

17:610:503 ***ePortfolio Capstone (0)***
A capstone course where students reflect upon and assess their previously documented learning experiences and coursework through the completion of an ePortfolio showcasing their academic accomplishments. Students will also build a professional ePortfolio focusing on career goals and objectives.
Prerequisite: 17:610:501. Pre- or corequisite: 17:610:502.

17:610:510 ***Human Information Behavior (3)***
Behavior vis-à-vis information as it bears on problems in library and information services and forms a theoretical and professional base for such services. Diverse contexts of information behavior; processes of information seeking, searching, using, and valuing. Assessment of studies of human information behavior in terms of relevance to library and information services.

17:610:511 ***Research Methods (3)***
Methods of assessing individual and organizational information needs, with emphasis on quantitative social science research techniques. Includes evaluative methods as an essential component of planning; critiques of published research; computer laboratory sessions for statistical data analysis.

17:610:513 ***Human-Centered Design (3)***
This course studies the histories, theories, and applications of human-centered approaches to design and computing. Students will explore how these approaches engage stakeholders in the design and use of technologies while addressing their limitations in relation to social inequalities and power structures. Emphasizing its relevance to fields of information professions such as HCI, librarianship, and health informatics, students will apply human-centered design approaches to their professional practices.

17:610:514 ***Learning Theory, Inquiry, and Instructional Design (3)***
This course examines social constructivist learning theories, information/digital/media literacies, curriculum standards, principles of instructional design, outcomes-based education, and evidence-based practice. Participants will learn how to design and implement inquiry-based learning programs for K-12 students that support cultivation of young people's information and technology dispositions, practices, and expertise, as well as their information/digital literacies.

17:610:515 ***Emerging Literacies: Learning and Creating with Digital Youth (3)***
This course is designed to prepare youth services librarians for leadership in teaching and supporting new literacies. Students will develop strategies to empower K-12 learners to engage in critical inquiry and become creative constructors of knowledge, global collaborators, computational and design thinkers, and digital citizens. They will envision inclusive, technology-rich library environments in which learners think, create, share, and grow and explore the cultural implications of new forms of digital creativity and communication for youth as they examine relevant academic literature across the disciplines.

17:610:516 ***Learning, Inclusion, and Student Engagement in School Libraries (3)***
This course explores how librarians build and lead collaborative, inclusive and responsive cultures of teaching and learning to motivate all members of the community to develop across the American Association of School Librarians' Standards and learning domains. Students will explore learner characteristics, individual dispositions, learning differences, and strategies for fostering responsible behavior and establishing an inclusive, positive, motivating and productive climate in the school, classroom and library.

17:610:517 ***Developing and Evaluating Equitable Library Services (3)***
Language, ethnicity, culture, disability, and other conditions that can hamper access to appropriate library information services; methods for studying communities in these categories and developing relevant programs and resources. Students write grant proposals to implement needs-based information services for target groups in specific settings.

17:610:518 ***Information Professions and Community Engagement (3)***
This course provides an introduction to, and overview of, community engagement theory and practice and its relevance to building the relationships that serve the information needs of communities in the digital age. Topics covered include community in theory and practice, social capital, social networks, information needs of communities, engagement methodology, evaluation, and collective impact and their relationship to library and information science organizations.

17:610:519 ***Information Literacy, Learning, and Teaching (3)***
Development of effective instruction in the use of information resources and technologies in all types of library settings. Special attention paid to adult learning theory and to the integration of information-seeking behavior with instructional design. Students practice instruction in cooperation with librarians and library users in various settings.

17:610:520 ***Organizing Information (3)***
Introduction to options and methods for creating information systems that provide access to the content of a collection of resources, whether print or electronic, linguistic, audio, visual, graphical, or commercial. Comparison of different kinds of classification schemes such as library subject headings, folksonomies, taxonomies, and ontologies. Techniques for vocabulary control and for assessment of information system quality with respect to usability and maintainability. Application of basic design principles to information systems. Introduction to fundamentals of resource description using XML and RDF metamodels and the simple Dublin Core metadata schema.

17:610:522 ***Cataloging and Classification (3)***
Introduction to the theory and practice of cataloging and classification. The course emphasizes the functions of library catalogs identified in Functional Requirements of Bibliographic Records , as well as the use of Resource Description and Access, Library of Congress Subject Headings, and the MARC21 (MAchine Readable Cataloging) encoding format in the creation and maintenance of such catalogs. It likewise covers the use of the Dewey Decimal Classification and the Library of Congress Classification as vehicles for access to information and in the organization of library collections. Due attention is given to the history of cataloging and classification and to the impact of the past on current practice and emerging developments.

17:610:523 ***Interaction Design Studio (3)***
In this project-based course, students will apply user-centered methods they learned in the design of interactive computing systems. Students will perform data collection, synthesize data, and design novel digital solutions to meet the needs of stakeholders. By completing their work, students will gain hands-on experiences with collaborative brainstorming, iterative design, rapid prototyping and usability evaluations to become interaction design professionals.

Prerequisites: 17:610:513

17:610:524 ***Metadata for the Information Professional (3)***
Detailed examination of issues and problems relating to the creation and application of metadata in various information environments. Major metadata schemes, encoding standards, and container architecture are examined with emphasis on functions, syntax, semantics, quality, and evaluation. Additional topics for examination include resource identifiers, controlled vocabularies, and metadata project management.
Prerequisite: 17:610:520 or 17:610:522, or permission of instructor.

17:610:525 ***Knowledge Organization, Access, and Services for School Librarians (3)***
This course explores principles, services, processes, policies, and strategies for leading the development, organization, and implementation of an effective and innovative school library program to ensure equitable physical, digital, and intellectual discovery, access to, and usability of collection and resources for diverse learning communities.

17:610:527 ***Special Topics VI (3)***

New courses developed in response to emerging areas of interest, and courses in traditional areas given occasionally as student demand dictates.

Prerequisites: As determined by the topic.

17:610:528 ***Special Topics VII (3)***

New courses developed in response to emerging areas of interest, and courses in traditional areas given occasionally as student demand dictates.

Prerequisites: As determined by the topic.

17:610:530 ***Search and the Information Landscape (3)***
This course explores professional, user-centered strategies for seeking, finding, retrieving, managing, evaluating, and sharing information across an array of traditional and emerging digital platforms, as well as the evolving role of the information professional.

17:610:531 ***Algorithms and Society (3)***
This class provides an introduction to the role that algorithms increasingly play in daily life, addressing the social forces that they both shape and that they are shaped by. Although algorithms are not new, their development and use has accelerated in recent years, resulting in a critical mass of academic literature on the topic. The course takes a multidisciplinary approach to interrogating algorithms, drawing primarily on literature from information science, computer science, and science and technology studies, with additional readings from disciplines such as philosophy, law, and public health. After completing this course, students will be able to critically engage with the role of algorithms in society on both theoretical and practical levels.

17:610:532 ***Collection Development and Management (3)***
Overview of creation, production, and distribution of materials. Emphasis on community analysis, collection development planning, criteria and methods for selection, collection evaluation, and collection management procedures and techniques.

17:610:533 ***Manuscripts and Archives (3)***
This course will emphasize the fundamental theory and practice of manuscript and archival administration, and its relationship to information management. The course will focus on accepted methodology and current issues relating to the collection, organization, preservation and use of historical materials.

17:610:534 ***Records Management (3)***
Examination of the document life cycle of the records of organizations; generation and control; filing, storage, and retrieval systems using various technologies; protection and disposition; and retention regulations and practices. Discussion of how records management concepts and contexts differ from archives and library organization and retrieval systems.

17:610:535 ***Competitive Intelligence (3)***
Competitive and strategic intelligence can support various corporate and organizational objectives and functions. Systematic programs for gathering, analyzing, and disseminating information for decision-making. Special attention to the information audit; to tailored selection and analysis of information for given user groups; and to assessment of quality and value of information services.

17:610:536 ***User Experience Research Methods (3)***
This course studies the fundamentals and basic techniques for evaluating the usability of products and services through qualitative and quantitative research methods. Students will gain the knowledge and skills to conduct effective user experience (UX) research, applying diverse methods to understand user needs, behaviors, and preferences. Through practical examples, they will learn to define research objectives, formulate hypotheses, analyze data, synthesize findings, and deliver actionable recommendations. These skills will enable them to make data-driven design decisions that enhance the usability of digital and physical products.

Prerequisites: 17:610:513

17:610:540 ***Reference Sources and Services (3)***
Focuses on the full range of information resources studied and used in applied contexts, placing emphasis on access to information through reference tools and the uses of information by learners. Important considerations are an analysis of strategies for searching and evaluating these works and comparisons between printed and electronic media. Emphasis placed on research tools, communication, information services, policy development, and evaluation.

17:610:541 ***Government Information Resources (3)***
Introduction to the nature and use of federal, state, local, and international government information resources. Problems relating to the acquisition, bibliographic organization, and reference use of public documents. Major emphasis on information resources of the U.S. federal government.

17:610:545 ***Health Sciences Information (3)***
This course provides an overview of the health information ecosystem and the role of health information professionals in supporting evidence-based decision making in health and medicine among multiple diverse constituents, include health professionals, researchers, and patients. Topics covered include evidence hierarchies and study designs, constructing and appraising exhaustive and reproducible search techniques for general and specialty medical databases, medical subject headings, and systematic review

17:610:547 ***Children, Reading, and Literacy (3)***
The course surveys the range of literature and media published for children, explores children's developmental reading needs and interests, prepares youth services librarians to evaluate resources across formats and genres, and explores the potential for creating rich literacy cultures in schools and public libraries.

17:610:548 ***Young Adults, Reading, and Literacy (3)***
This course prepares school and youth services librarians to take leadership in creating cultures of literacy for young people aged 12-18. Students will explore both traditional and emerging social/digital strategies to match readers with books across genres and media formats, plan and implement reader-centered activities, model critical thinking relating to the reading of nonfiction and fiction, and celebrate authors and reading.

17:610:550 ***Introduction to Information Technologies (3)***
This course offers students a hands-on introduction to software tools and technology used in the creation and delivery of information services. Students will learn key concepts and skills related to web technologies (e.g., HTML, CSS, Frameworks), web programming (e.g., JavaScript, PHP), and data management (e.g., MySQL). Students will learn how to use and evaluate web services and open source software tools. Students will learn how information technology is used in today's information organizations and libraries, e.g., integrated library systems, technical services, document management, and provision of web services. The knowledge and skills conveyed in this course will assist students in applying information, web, and data technologies in various information services and in their professional practice.

17:610:551 ***Information Retrieval (3)***
Theory, design, use, and evaluation of information retrieval (IR) systems. Design principles for IR systems and their implementation, characteristics of operational and experimental retrieval systems, and evaluation of information retrieval systems.
Prerequisites: 17:610:510 and 17:610:550.

17:610:553 ***Digital Libraries (3)***
Fundamental issues, problems, and approaches to digital libraries, reflecting differing efforts and thinking in a number of fields and enterprises. Variety of digital library collections; organization, access, and use of digital libraries. Technical infrastructure; socioeconomic issues; integration of information resources; relation to traditional libraries. Current projects and initiatives.

17:610:554 ***Information Visualization and Presentation (3)***
Design of presentations using texts, graphics, images, and sounds. User interpretation, navigation, and interaction with visualizations. Visualization in information retrieval and interfaces in library and information processes. Effective display and presentation of information using various formats, both print and electronic.
Prerequisite: 17:610:550.

17:610:555 ***Multimedia Production (3)***
A laboratory course in the design and production of multimedia resources for libraries, media centers, information systems, and other informational applications. Examines and critiques current uses of new media and provides skills in user-centered multimedia design.
Prerequisite: 17:610:550.

17:610:556 ***Preservation of Library and Archival Materials (3)***
How to keep what we have for as long as we want to have it. The risks to physical materials, and the ways of preventing loss. Deterioration, environmental controls, and principles of handling. Reformatting. Digital preservation.

17:610:557 ***Database Design and Management (3)***
This course introduces students to databases, data modeling, and database management systems for information management and retrieval. Both theory and practical technology experiences will take place balancing database concepts, design, implementation, and usage.

Prerequisites: 17:610:550

17:610:558 ***Digital Library Technology (3)***
Organizational, technical, and logistical issues concerning the design and implementation of electronic collections, documents, and services. Students learn in the context of building their own prototype digital library.
Pre- or corequisite: 17:610:550 and 17:610:553.

17:610:559 ***Web Programming (3)***
This course gives students a hands-on introduction to the key web programming concepts, technologies, and software tools used to create web applications. Students will learn how to use major front- and back-end frameworks to design multidevice user experiences.

Prerequisites: Students who have not successfully completed the course 17:610:550 may request to waive the course prerequisite if they can demonstrate that they have the knowledge/expertise to

- Create and upload HTML webpages that are standards-compliant and contain relative and absolute links, tables, images, and embedded video or data widgets.
- Design external cascading style sheets that control the layout and visual appearance of a set of webpages.
- Use basic programming concepts (variables, arrays, loops, and functions).
- Understand the basics of JavaScript to create or customize simple functions.

Prerequisites: 17:610:550. See course description for a further explanation of prerequisites.

17:610:560 ***Foundations of Data Science (3)***
This course provides students with a practical introduction to the field of Data Science and familiarizes them with the essential facets of the data scientist profession. This includes a grounding on data-based reasoning, problem formulation, data collection, data pre-processing, data analytics, visualization, and the ethics surrounding the use of data and its processing.

17:610:561 ***Data Analytics for Information Professionals (3)***
Data analytics linked to storage, curation, management, and mining with attention to alternative methodological approaches. The course will demonstrate various methods to explore how big data might be analyzed, stored, and retrieved.

17:610:562 ***Problem Solving with Data (3)***
This course offers students a practical introduction to the field of data science and common methods for quantitative and computational analytics, through which they can have an overview of key concepts, skills, and

technologies used by data scientists. While the course covers several programming languages and tools, the focus is on solving problems. Students will be introduced to real-life problems that involve collecting and analyzing data.
Prerequisites: 17:610:550, 17:610: 560 Corequisites:17:610:561

17:610:564 ***Machine Learning for Data Science (3)***
This course offers students a practical introduction to using Machine Learning algorithms, tools, and techniques for solving problems that fall under the umbrella of Data Science. It is structured around learning concepts from the field of Machine Learning and applying them on data-intensive problems. While the course covers theories of Machine Learning and tools such as R, the focus is on using them for solving data-driven problems. The students will be introduced to several real-life problems that involve analyzing data for prediction, classification, organization, estimations, and pattern recognition.
Prerequisite: 17:610:550,17:610:560; 17:610:562

17:610:566 ***Digital Curation (3)***
Collecting, making available, and preserving digital materials, including data resources as well as text resources. This is not about conversion to digital but about the organization and long-term preservation of both converted and born-digital materials.
Prerequisites: 17:610: 550.

17:610:567 ***Information Security Management (3)***
This course introduces students to the concepts of information security management. Both technical and administrative aspects of enforcing and managing the security of information assets will be covered through requirements analysis, planning and designing of information security management systems and development of information security plans and policies.

17:610:569 ***Digital Preservation (3)***
This course evaluates the interconnectedness of digital preservation, digitization, copyright, and curation of digital collections. Digitized formats and media and born digital content are crucial to the success of cultural heritage digital collections. Digital preservation ensures this content is accessible and stable for many lifetimes. The goal of this course is to give students an advanced look into the world of cultural heritage digital preservation. This course allows students to explore their own interests in typical cultural heritage formats and media held by museums, libraries, and archives.

17:610:570 ***Management Principles in Information Organizations (3)***
This course provides an introduction to the current state of management theory, ethics, and practice focusing on leadership and the management of information organizations.

17:610:571 ***Transformative Library Leadership (3)***
Today's libraries are in the midst of transformative change requiring a workforce that is able to lead, manage, and interact with others outside of traditional structures long associated with organizational hierarchies. This course will provide students with the foundational values underlying the library profession, explore leadership topics, and focus on skills and attributes that are essential for the delivery of effective and dynamic library service.

17:610:572 ***Evaluation of Library and Information Services and Systems (3)***
Methods of assessing performance and value, with emphasis on evaluating each system or service in its context. Specification of criteria, measures, measuring instruments, and methods of evaluation related to a variety of library services and to information retrieval (IR) systems.

17:610:574 ***Knowledge Management in Organizations (3)***
In this course students study a critical approach to theories and practical applications of knowledge management/ knowledge sharing in organizations, including: knowledge as a resource and asset; the role of technology tools in knowledge sharing; knowledge generation and knowledge flow; communities of practice; and the effective use of knowledge in organizations such as education, companies, non-profit organizations, and information agencies, including libraries. The course will address the role of information managers and professionals, communication professionals and knowledge advocates in understanding how knowledge is created, exchanged and used for organizational learning.

17:610:575 ***Leadership, Management, and Evaluation of School Libraries (3)***
This course examines the philosophy and creative leadership of school library programs. Using a case study approach our explorations include the planning and evaluation of a school library program, as students explore the transformational role of the school librarian as leader of a learning culture and institutional change.
Prerequisites: Successful completion of at least 15 credits of coursework and 17:610:514.

Corequisite: 17:610:592.

17:610:577 ***Project Planning and Management in the Information Professions (3***
This course examines the application of specific knowledge, tools, and techniques to deliver something of value--a unique product, service, or result--to people.

17:610:579 ***Ethical Decision-Making in Information Practices (3)***
The course prepares students to think critically about ethical debates surrounding information and technology in their personal and professional futures. Drawing from classical ethical frameworks and more current and diverse concepts of justice that focus on race, class, and gender, we analyze case studies from real-life situations to discuss, understand, and critique the value systems and power structures embedded in information work. Cases examine how information technologies shape and are shaped by cultural, societal, professional, community, and individual values, including an exploration of the impact of such values on professional practice, decision-making, and public policy.

17:610:580 ***Knowledge and Society (3)***
Introduction to the production, dissemination, and consumption of knowledge in society, related to roles of information professionals and the functions of libraries and other information institutions. Differences among disciplines in how knowledge is recorded and transmitted. Global issues and trends in society that have affected scholarly communication and the access to information for the public.

17:610:581 ***Social Informatics (3)***
Technological innovation, computerization, and electronic information are associated with dilemmas, value conflicts, and choices surrounding the scholarly, personal, and professional use of information. Addresses social relationships, technological utopianism, societal control, vulnerability of information systems, and ethical responsibilities.

17:610:582 ***Information Policy (3)***
The economic, social, and political forces affecting the introduction and implementation of current information legislation and policy, set within the theoretical context of frame reflection. Emphasis on national and global policy

in the design of evolving electronic infrastructures. Particular attention given to issues of access, including universal service, intellectual freedom, intellectual property rights, privacy, security, advocacy, equity, and the role of library and information professionals and organizations in policy formulation.

17:610:583 ***Foundations of Archives and Preservation (3)***
Students will get an introduction to the current issues and trends in preservation, archival theory, and conservation. They will learn about the historical and emergent forms and how materials of cultural and scientific knowledge are accessible to present users and future generations; and about the methods of assessment for providing access to analog and digital records as trustworthy evidence and memory covering activities of individuals, families, organizations, groups, and movements. Focus will be on critical thinking around privacy, human rights, social justice, activism, and memorial contestation. Students will be oriented to the principles of archival professional practice of arrangement and description; appraisal theories; and will learn about the practices for diverse organizations in the changing perspectives and social contexts.
Recommended for students in the archives and preservation sub-area as the foundational course to take before enrolling in specialized classes.

17:610:584 ***Intellectual Freedom in Libraries (3)***
Examines the historical and legal background of intellectual freedom in libraries as well as current trends and topics. The course discusses the many challenges to the concept and practice of intellectual freedom from technological to political to legal. Students learn how to articulate, promote, and defend intellectual freedom policies as a key component of professional practice in all types of library and information services.

17:610:585 ***Reading Interests of Adults (3)***
Examination and evaluation of materials for adult library users, with special attention to fiction genres. Use of materials in programming. Emphasis on popular culture and adult literacy.

17:610:586 ***The History of Books, Documents, and Records in Print and Electronic Environments (3)***
The course will examine the production and circulation of knowledge in light of changing technologies, institutions, and textual forms. An overview and comparison of textual transmission in oral, manuscript, print, and electronic communication environments will include regulatory frameworks and the history of intellectual property (from attribution and authorship to participatory ownership of creation). It will examine the current scholarship relevant for understanding books, documents, and record manifestations comparatively. The focus on the book trades, web spheres, and sociotechnical systems such as digital libraries will prompt questions about the nature of texts (print, nonprint, and digital), their reception, associated literacy practices, and communities and institutional contexts. The course will present a critique of the technological revolution perspective.

17:610:587 ***Understanding, Designing, and Building Social Media (3)***
Virtual communities have been around since the 1980s. Today social media and emerging digital tools—like Twitter, Google+, Tumblr, Pinterest, Flickr, SlideShare, YouTube, and Facebook--allow all citizens to easily collaborate, participate, create and publish. This hands-on, immersive course explores new and emerging social media, focusing a lens on how we might recognize and harness the opportunities they present to advance our individual, organizational, and community goals and to inform and improve professional growth and practice. This project-based course merges social science, information science and computer science approaches to explore the evolving social and technological forces driving social media services and to evaluate their affordances for practical and professional goals.

17:610:589 ***WISE-Individual Study (3)***
Students who participate in WISE consortium courses will be given special permission to register for this course in order to receive credit for their work.

17:610:591,593 ***Individual Study I,II (3,3)***
Prior to registering, students write a proposal for the study, specifying rationale and outcome, and seek the approval of a faculty member who will supervise the investigation. Usually pursued near the end of the student's program of study.
May be pursued by a student interested in a specialized topic or type of library/information practice not covered in the curriculum.

17:610:592-NSM ***Field Experience: Non-School Library Media (3)***
Requires a minimum of 150 hours of supervised professional work in a library or other information organization, attendance at meetings with the faculty adviser and other students, keeping a journal, and a brief summary paper. Placement is based on the student's background and career objectives.
Prerequisite: Successful completion of at least 15 credits of coursework. Arrangements must be made with the faculty adviser early in the preceding semester.

17:610:592-SM ***Field Experience: School Library Media (3)***
Requires a minimum of 150 hours of supervised professional work in a school library. This course is required for state certification for school library media specialists and must be taken concurrently with 17:610:575 - Management of School Library Programs. Students maintain a journal and their assignments in 575 relate to the Field Experience.

Prerequisites: Successful completion of at least 15 credits of coursework and 17:610:514. Field Experience should preferably be undertaken at or near the completion of course work.

Corequisites:17:610:575

17:610:590,594,596,597,598,599 ***Special Topics (BA)***
Special Topics are new courses developed in response to emerging areas of interest, and courses in traditional areas given occasionally as student demand dictates. .

17:610:800 ***Matriculation Continued (0)*** *
Students who must interrupt their studies may, with the approval of the program director, register for Matriculation Continued (leave of absence). There is no tuition for this registration, although a student fee is charged. Students who do not register for Matriculation Continued will be charged a reactivation fee upon their approved return to the program. (Note that international students on temporary visas who interrupt their studies must in most cases leave the United States during such periods.) Matriculation Continued is available only to students not enrolled in any coursework and not using faculty time or university facilities except to complete previous coursework from classes with incomplete or temporary grades. Students may enroll in Matriculation Continued for a maximum of two consecutive semesters.

17:610:866 ***Graduate Assistantship (By Arrangement)***

This course is open only by special permission in unique cases for MI students. May be 3 or 6 credits; credits do not count towards the MI degree.

17:610:877 Teaching Assistantship (By Arrangement)

This course is open only by special permission in unique cases for MI students. May be 3 or 6 credits; credits do not count towards the MI degree.

Ph.D. Program in Communication, Information, and Media (SC&I-G)

PH.D. PROGRAM IN COMMUNICATION, INFORMATION, AND MEDIA

Melissa Aronczyk, Director

Matthew Weber, Area Coordinator, Communication

Charles Senteio, Area Coordinator, Information Science

John Pavlik, Area Coordinator, Media Studies

Please visit the Ph.D. Program in Communication, Information, and Media website.

Ph.D. Program

Ph.D. Program Requirements

Ph.D. Admissions

Advising and Annual Review

Financial Support

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Ph.D. Program (SC&I-G)

PH.D. PROGRAM

The Ph.D. program in Communication, Information, and Media provides doctoral training in theoretical and research skills for scholarly and professional leadership in the fields of communication, library and information science, and media studies. The strategic combination of these areas helps prepare you to address key questions facing our society in the 21st century. We focus on the nature and function of communication, information, and

media institutions, policies, processes, and systems, examining their impact on individuals and social, organizational, national, and international affairs. Interdisciplinary approaches to these issues are strongly supported and encouraged.

SC&I faculty produce field-defining scholarship focused on communication, information, and media that expands knowledge, advances practice, promotes social justice, and improves lives.

The website contains the most current information about the program. Students and prospective students should especially consult the current year's *Ph.D. Program Handbook* which is linked from that page.

In addition, the website of the School of Graduate Studies has pertinent information about policies and procedures.

Ph.D. Program (SC&I-G)

Areas of Concentration

PROGRAM AREAS OF CONCENTRATION

The Ph.D. program in communication, information, and media (CIM) has three areas of concentration: communication (COM); library and information science (LIS); and media studies (MS). Students whose interests fall across these three areas are encouraged to develop an individual plan of study in consultation with the program director, area coordinators, and their adviser.

Communication (COM)

The communication area of the interdisciplinary doctoral program in the School of Communication and Information has faculty with research interests in five interconnected areas: communication and technology; health communication; interpersonal communication; language and social interaction; and organizational communication. Doctoral students in communication conduct problem-oriented research at the intersection of these areas that focuses on a variety of prominent contemporary topics, such as social networks, social media, online privacy and anonymity, children's media use, community health programs, health campaigns, medical provider-patient interaction, interaction on emergency and emotional support telephone lines, family involvement in palliative care, global teams, organizational change, corporate social responsibility, and institutional leadership. Multiple centers and labs provide various opportunities for doctoral students, including: Center for Communication and Health Issues; Center for Language, Interaction and Health; Center for Organizational Development and Leadership; Collaboratory for Organizing and Social Media; Network Science Lab; and the Rutgers University Conversation Analysis Lab.

Information Science (LIS)

Library and information science provides a strong academic foundation for students seeking theoretical and research skills for scholarly and professional leadership in the library and information fields. The LIS area of concentration (also known as iSchool) in the interdisciplinary Ph.D. provides an excellent environment for research in such areas as human information behavior; social computing; health information; learning and education; information institutions, artifacts, and documents; human-centered computing/HCI/interaction and design; and data science. Students take classes and research experiences to develop an understanding of and research capability in human information-seeking activity; information retrieval systems; information and knowledge

structures; as well as digital and physical information centers as part of a diverse global information environment. Ph.D. students in the LIS concentration must have two areas of study. With the assistance of their advisers, students select a relevant second area from one of the other areas of the Ph.D. program or from elsewhere in the university. Research labs and centers provide various opportunities for doctoral students, including CISSL (Center for International Scholarship in School Libraries), the Knowledge Institute, the InfoSeeking Lab, the Behavioral Informatics Lab, and the SALTS Lab (Laboratory for the Study of Applied Language Technology and Society).

Media Studies (MS)

Media studies is concerned with the political, social, psychological, and economic impacts of journalism and of the news, communication, and entertainment media; and with the historical, cultural, and technological conditions that have shaped them. It studies how media operate at the local, national, and international levels, and the research methods range from the humanistic to the social scientific. Specific areas of faculty expertise include the relationship of journalism and media--including digital, online, and social media--to national politics, law, regulation, and public policy; political and social activism and movements; popular culture and cultural industries; race, gender, religion, ethnicity, and identity; technology and innovation; the formation of political opinions and attitudes; history; collective memory; and media theory and cultural studies.

Interdisciplinary Studies

The program encourages students whose interests fall across these three areas to develop an individual plan of study in consultation with the program director, area coordinators, and their adviser.

Ph.D. Program Requirements (SC&I-G)

PH.D. PROGRAM REQUIREMENTS

The communication, information, and media (CIM) Ph.D. degree is granted upon completion of course requirements, passing written and oral qualifying examinations, and successful defense of the proposal and doctoral dissertation. These requirements are described below:

I. Master's-level statistics competency

II. Course requirements

- Program core courses
- Program area course requirements
- Transfer of approved master's degree course credits
- Dissertation research credits (24-27 required beyond coursework, minimum of 1 research credit per semester until graduation)

III. Qualifying examinations (oral and written)

IV. Proposal

V. Dissertation

All students are encouraged to involve themselves with faculty research as early as possible with multiple and varied research experiences. Doctoral students are required to attend program-sponsored colloquia, regularly held on select Friday afternoons throughout the academic year. Students are encouraged to also take advantage of the many additional colloquia, conferences, lectures, symposia, and workshops scheduled each year, not only at the School of Communication and Information, but throughout Rutgers University and the many other research universities within easy commute. As an additional part of one's doctoral preparation, students are expected to actively submit to and present at various regional, national, and/or international scholarly conferences relevant to their research.

Ph.D. Program Requirements (SC&I-G)

Master's-Level Statistics Competency

Master's-Level Statistics Competency

For students in the LIS concentration who are required to take Quantitative Research Methods (16:194:604), or those in Communication or Media Studies who are selecting quantitative methods courses to fulfill methods requirements, the Ph.D. Program faculty expects that students have achieved master's level competency in statistics.

Students who have not successfully completed graduate level coursework in statistics, or feel unsure about their statistical competency, are strongly encouraged to enroll in a master's level statistics course as soon as possible and prior to taking 604 or other quantitative methods courses. However, credits earned in master's level statistics do not count toward the Ph.D. program's course work credit requirements. Possible master's level courses at Rutgers include (but are not restricted to):

- 17:610:511 Research Methods
- 16:960:532 Statistical Methods in Education II

See the Ph.D. Handbook for details about the specific statistical competencies expected.

Ph.D. Program Requirements (SC&I-G)

Course Requirements

Course requirements are summarized as follows (described in more detail below):

1. Core Course Requirements for students in Communication (COM), Library and Information Science (IS), and Media Studies (MS)
6 credits: 16:194:600 (0), 601 (3), and 608 (3)

2. Program Area Course Requirements
COM: 30 credits
IS: 27 credits
MS: 27 credits
See the course overviews below.

3. Transfer of Approved Master's Degree Course Credits: Additional credits of graduate coursework including, but not limited to, master's degree transfer of credits. Must be approved by the Ph.D. director.

COM: up to 18 transfer credits

IS: up to 15 transfer credits

MS: up to 12 transfer credits

4. Dissertation Research Credits: Taken after completion of all coursework credits and the transfer of approved master's degree course credits. Must take a minimum of 1 research credit per semester until graduation.

COM: 24 research credits
IS: 24 research credits
MS: 27 research credits

Upon successful completion of: 1) core course requirements, 2) program area course requirements, and 3) transfer of approved master's degree course credits, the candidate is eligible to take the qualifying examination (see Qualifying Examinations section).

Independent Study Credits: As a general rule, students only take independent study credits when no course offerings matching their needs are available. Students should not have more than one independent study as an elective counting toward their doctoral degree requirements (unless the director, area coordinator, and/or student's adviser approve such a request). Students may take additional independent studies, as long as they are not used to fulfill minimal program credit requirements. In other words, only one independent study will count toward your degree credits, unless approved as above. The exception is those in IS are required to take a guided research experience in a subfield, which will normally be in the form of Independent Study.

Assistantship Credits: Credits for funded graduate and teaching assistants do NOT count toward degree requirements in the Ph.D. program.

Core Course Requirements

The three required core courses for all Ph.D. students include:

16:194:600: Ph.D. Colloquium (0) Taken during each semester of coursework and attendance is required until qualifying exams are passed, Colloquium is held on selected Friday afternoons from 1:00 to 2:30 p.m. It includes research presentations by students, faculty, alumni, and outside speakers, as well as professional development seminars.

16:194:601: Communication, Information, and Media Proseminar (3) Taken during the first semester, the Proseminar addresses the nature of communication, information, and media processes and their role in individual, social, and institutional behavior. Particular emphasis will be on the conceptual linkages between communication, information, and media processes, as well as theory and metatheory. Panels will alternate between interdisciplinary and area-specific topics featuring CIM program faculty as speakers. Proseminar will include topics in professional development, academic integrity, responsible and ethical conduct of research, and intellectual property. Students will pass CITI, Human Subjects Certification, as part of the course.

16:194:608: Research Practicum (3) Taken by arrangement with faculty member, usually toward the end of coursework, this requirement is met by a student registering for this course with a member of the program faculty who has agreed to supervise the student's participation in a research project of interest. Students are expected to contact faculty directly with practicum projects/ideas. The expected outcome of the Research Practicum is a paper (single or coauthored) submitted to a recognized conference or refereed journal. The results of the Research Practicum will be presented by the student at a Ph.D. poster session colloquium typically held at the end of each semester (see the website and click on Guidelines for Research Practicum Presentations bullet).

Program Area Course Requirements by Area (27-30 credits)

Each program area sets its own curriculum and area course requirements as follows:

Communication (COM)

Ph.D. students in COM are required to take Research Design (3 cr.) and Foundations of Communication Theory (3 cr.) as area requirements. In addition, students are required to take three specialized methods courses (9 cr.), one of which may be more broadly defined as a research experience or professional development course. Beyond these requirements, students are expected to choose a major and minor area of study and the remaining 15 credit hours (5 courses) are to consist of elective courses in the student's major and minor area of study. Students should take courses from at least two of the five core foci within the COM area, which include communication and technology, interpersonal communication, health communication, language and social interaction, or organizational communication. The core course for each of these five foci in the COM area will be offered on rotation once every two years, so students are encouraged to take the core course in their major and minor areas of study when they are offered. Students' major and minor area of study are typically two of these five foci, but in some cases students may choose as a minor area one of the other two areas of the Ph.D. program or programs elsewhere in the University. A qualifying exam in each area will be taken once the student has completed all course work. All qualifying exam questions will contain a methods component.

Methods: Three specialized methods courses (9 credits) offered in the program or outside the program (consult your advisor). One course (3 credits) can be taken as a research experience or professional development course (such as academic writing) that advance the student's training in conducting research and writing for publication.

Required COM Area Courses

In addition to the two methods courses, the following are required:

- 16:194:623 Research Design (3)
- 16:194:624 Communication Theory (3)

Elective Courses in Major and Minor Area of Study:

Five elective courses (15 credits) should be taken in the student's major and minor area of study, with three courses (9 credits) forming the major area and two courses (6 credits) forming the minor area.

Students should plan to take the core course in at least two of the five core areas in the COM department to form the basis for their major and minor area. The core courses in each area include those listed below and each course will be offered on a rotation once every two years:

- 16:194:620 Interpersonal Communication (3)

- 16:194:621 Organizational Communication Research (3)
- 16.194:622 Health Communication (3)
- 16:194:633 Mediated Communication (3)
- 16:194. xxx Language and Social Interaction (3)

Remaining elective credits can be taken as special topics courses (16:194:670-674 Topics in Communication Processes I through V -- 3 credits each) in any of the following areas. Offerings vary by semester.

- Topics in Communication and Technology (e.g., Mediated Communication Theory, Social Media, Communication Design, Work and Technology)
- Topics in Interpersonal Communication (e.g., Interpersonal Communication Theory, Uncertainty and Communication, Relational and Family Communication)
- Topics in Health Communication (e.g., Health Campaigns, Interpersonal Health Communication, Professional Practices and Issues of Health)
- Topics in Language and Social Interaction (e.g., Basic Structures of Social Interaction, Communication and Emotion, Communication and Gender)
- Topics in Organizational Communication (e.g., Conflict and Collaboration, Dynamics of Global Organizations, Leadership, Organizational Change, Communication Networks)

Students may take one elective course outside of the department in a different area of the CIM program, a different unit at the university, or as part of the inter-university consortium. Additional courses outside of the COM department require approval by the Ph.D. director, area coordinator, and the student's faculty advisor.

Library and Information Science (LIS)

Study in LIS consists of at least 12 credits in the primary LIS area (four courses, including Seminar in Information Studies and Human Information Behavior). Students must also take at least 6 credits (two courses) in a selected subfield or secondary area of study. With the assistance of their advisers, students select a relevant second area from one of the other areas of the Ph.D. program or from elsewhere in the university. The LIS Ph.D. area curriculum is structured around five themes: human information behavior; information retrieval, language, and communication; information agencies and artifacts; learning, youth, information, and technology; social and community informatics. Ph.D. students in the LIS area may choose to specialize in any of these themes. Courses within these themes will be offered on a regular basis, and students will select courses in consultation with their adviser.

Methods: Students must take three methods courses (9 credits), choosing either Option A or Option B.

Option A:

- 16:194:604 Quantitative Research Methods (3) (Required)
- 16:194:603 Qualitative Research Methods (3) and
- 16:194:605 Critical Research Methods (3)

If Option A is selected, both 603 and 605 are taken; one of these (3) may count toward LIS or secondary area credits.

Option B:

- 16:194:604 Quantitative Research Methods (3) (Required)

- 16:194:603 Qualitative Research Methods (3)
- or 16:194:605 Critical Research Methods (3)
- and one advanced Ph.D. methods course (3) taken from elsewhere in the university.

Required LIS Area Courses

In addition to the three methods courses, the following are required:

- 16:194:610 Seminar in Information Studies (3
- 16:194:612 Human Information Behavior (3)

Required: Two Additional LIS Area Courses:

In addition to LIS required courses, at least two other courses in the LIS area (6 credits) must be taken, such as:

- 16:194:614 Information Retrieval Theory (3)
- 16:194:619 Experiment and Evaluation in Information Systems (3)
- 16:194:641 Information Policy and Technology (3)
- 16:194:656 Theories and Issues in Library Studies (3)
- 16:194:675-679 Topics in Library and Information Science I through V (3 each)
- Offerings vary by semester.

Required Secondary Area Courses

Two courses outside of LIS in your subfield or secondary area (6 credits) (consult with your adviser on selection of these)

Required: Guided Subfield Research Experience:

Students are required to have a guided research experience in their chosen subfield which can be taken as 16:194:698 Independent Study (3 credits)

Media Studies (MS)

Students in the media studies area must take 27 credits, including two required 3-credit courses (Media Theory and Critical Research Methods); three 3-credit area courses from courses listed as Topics in Media Studies (i.e., 16:194:680-684 Topics in MS I-V); and three 3-credit elective courses approved by the adviser. With the assistance of their advisers and the area coordinator, students may designate major and minor areas that fit their interests. Students may choose as a minor area one of the other areas of the Ph.D. program, or may choose a minor area elsewhere in the university. A qualifying exam in each area will be taken once the student has completed all coursework.

Methods: Students must take Critical Research Methods (16:194:605) (3) and one additional methods course (3 credits) to be determined in consultation with the student's adviser.

Required MS Area Courses: In addition to the two methods courses, the following are required:

- 16:194:631 Media Theory (3) Course must be taken in the first semester of study.

- 16:194:680-684 Topics in Media Studies I-V. Must take a total of three courses (9 credits). Offerings vary by semester.

Elective Courses: The remaining three courses (9 credits) can be taken from any department at the university or from any school in the consortium (with approval). At least one of these MUST be a course in one of the other areas in the CIM Ph.D. program, as approved by the student's adviser.

3. Transfer of Approved Master's Degree Course Credits

Students should consult their adviser before applying for transfer of credits. The Ph.D. program director will then recommend to the School of Graduate Studies (SGS) which and how many courses are approved for transfer. It is not uncommon to limit transfer credits to less than 12 or less than 18 credits (depending on the program area and individual student circumstances). Transferred courses must be theoretical or research-based courses in communication, information science, and library studies; media; or closely related fields. Students must have received a B or better on any coursework to be transferred, and courses should have been taken within the previous six years. Applied or professional courses (such as internships, video production, or newswriting) are not acceptable. For further information, see the *SGS Handbook*.

The Application for Transfer of Credit (see: Ph.D. Handbook and Key Forms) should be completed and submitted to the Office of Student Services as soon as the student has finished 12 credits of doctoral studies in the program. Failing to do so in a timely manner could result in additional coursework requirements and/or delays in taking qualifying exams.

4. Dissertation Research Credits

The number taken during a particular semester will vary and should reflect the degree of involvement of the student and their adviser during that semester. Once a student has passed his or her qualifying examination, the minimum registration required by SGS is 1 research credit per semester. Please consult with the program director if you need to take a leave of absence (e.g., for medical, family, or other reason) for any semester prior to graduation. Any leave must be formally requested. See catalog section on timelines for completing requirements.

Ph.D. Program Requirements (SC&I-G)

Policies

Policies on Grades

Grading Policy

The School of Graduate Studies (SGS) allows the following grades to be given for coursework:

A: Superior work of the highest standard, mastery of the topic
B+: Very good work, substantially better than the minimum standard, very good knowledge of the topic
B: Good work, better than the minimum standard, good knowledge of the topic
C+: Minimum standard work, adequate knowledge of the topic
C: Work barely meeting the minimum standard, barely adequate knowledge of the topic
F: Wholly inadequate work
IN: Incomplete

For Dissertation Research credits, which are taken after the qualifying examination has been passed, the grades are:

S: Satisfactory
U: Unsatisfactory

SGS allows 9 credits offered in partial fulfillment of the requirement for the doctorate (and for which letter grades have been given) to bear grades of C or C+ (with no more than 6 credits with the grade of C). However, it is generally considered unacceptable to receive a C or C+ in this program--and students who do so may be advised to consider withdrawing from the program.

Policy on Incomplete Grades

In general, faculty and students are strongly discouraged from granting or requesting incompletes in a course; they should only be given when circumstances beyond the control of the student necessitate additional time for completion of assignments. When an incomplete grade is given, the incomplete work may be made up, and a change of grade may be authorized by the instructor within a period of time agreed to by both parties up to two semesters after the original course registration (excluding Summer Session). Incomplete grades generated in a Summer Session must be completed by the end of the following Summer Session.

Any student who has more than one incomplete will be allowed one semester to reduce the number to one (or none). After which, they will not be allowed to register for additional courses until these are completed or "abandoned." ("Abandoned" refers to a situation in which the student has agreed that the course may no longer be completed and the program has agreed to allow the student to continue with permanent incompletes on his or her record.)

If students need to take a semester or year off (for illness, family illness, pregnancy, or other personal reasons), they need to contact the program office for matriculation continued or formal leave of absence request. Failure to do either of these will result in a reinstatement fee imposed by SGS for one research credit per semester.

Ph.D. Program Requirements (SC&I-G)

Qualifying Examination Requirement

Qualifying Examination Requirement

The qualifying examination is taken after the successful completion of all course credits. It consists of two portions: the written and the oral. Qualifying exams cover the areas of coursework specialization (as stipulated in each program area). Completion of course requirements does not guarantee a passing mark on the qualifying examination. Students are expected to read well beyond required course readings in preparing for the qualifying examination, in consultation with their adviser and exam committee members. Prospective candidates for the doctorate should understand that they will not ordinarily be permitted to proceed to the qualifying examination unless their record in coursework shows evidence of distinction, meaning, in general, a B+ or better average. The functions of the qualifying examination are: to determine that the student is adequately prepared to embark on the research required for producing a dissertation; and, that the student has sufficient knowledge to be a member of the academy in the student's discipline.

Exam Dates: Exam dates are determined by the student and his or her adviser and committee, but should not be conducted past the 12th week of each semester without prior approval from all committee members. Exam questions are sent by email to the student from the Ph.D. office. Within two weeks of submitting the written answers, the oral examination is scheduled. Students have a limit of 10 days to complete and submit their answers. Written qualifying exams are started on a Friday morning and completed 10 days later on a Monday. If a student prefers to write over a 10-day period spanning different days they should consult with the Ph.D. office to evaluate alternatives. Students planning to take qualifying exams must notify the Ph.D. office and the program director as soon as possible. Students will also sit for an oral defense of their qualifying exams, which should be scheduled to occur approximately two weeks after submitting the written answers.

Candidacy Form: Students must download and complete the candidacy form prior to taking qualifying exams, click on admission to Ph.D. candidacy application. Bring this completed form to the oral portion of the exam.

Examination Committee: The examination committee consists of the chair, determined by mutual agreement of the student and the faculty member, and at least three other examiners, chosen by the chair in consultation with the student. Each question must be read by at least two examiners, and there must be at least four different examiners in total. The four examiners constitute the examination committee.

For cases in which the student is to answer a written qualifying examination question in an area different from the program area, at least one examiner of that question must be from that area. For instance, if the other area is from outside the School of Communication and Information (SC&I), then at least one of the examiners must be a member of the graduate faculty of that area (e.g., sociology, computer science, anthropology). Or, if the other area is from within SC&I (e.g., communication [COM], library and information science [LIS], or media studies [MS]) at least one of the examiners must be a member of that program area.

The members of the examination committee may set questions that are generally relevant to the student's research interests and/or course of study, or they may set questions that are relevant to the examined area as a whole. Such decisions made by the examination committee, within any constraints that may be set by the program area.

Written Examination: The written portion consists of a take-home exam of two questions covering two distinct areas of study. The number of questions that are set, from which the student chooses two to answer, is decided by the program area. Typically the student is sent four questions, and the student then chooses to answer one question from each of the two areas. Answers should conform to the length guidelines if given with your question. Please limit the text of your answer to 20-25 pages, typed and double-spaced (6,000 words on average). Instructions are also sent to the students with the exam.

Each program area determines for itself what the questions cover, within the constraints of the program description for that area. LIS requires that students study in two areas: an LIS area, and an area from outside LIS. This second area can be within SC&I (COM or MS) or from elsewhere in the university. The student must then answer one question relevant to each of the two areas in which she or he has studied. In COM, students must have a major and minor area of study. These may include foci within the COM area: organizational communication, social interaction, mediated communication, or health communication; but are not limited to these areas of communication study. Students may choose as a minor area one of the other areas of the Ph.D. program, or a minor elsewhere in the university. In MS, there is no requirement to study in more than one area, so the two questions may cover whatever aspects of MS the examination committee considers relevant.

Oral Examination: The oral portion of the qualifying examination is led by the chair of the examination committee, and includes all four members. It is scheduled within two weeks of the completion of the written exam. In the oral exam, members of the examination committee pose questions to the candidate, on the subjects of the written questions and/or on subjects related to the areas in which the student is being examined.

There are three options for examiners when evaluating each exam question: pass, revise, or fail. (See the qualifying exam evaluation form). At the conclusion of the oral exam, the members of the examination committee decide if the student has successfully passed one or both questions, or if the student will have to provide additional written work for one or both areas (revise option), or if the student has failed one or both questions.

Pass: If the student has successfully passed both questions, the student receives a pass and is admitted to candidacy for the Ph.D. The committee members will sign the student's candidacy form and give it back to the student to return to the Ph.D. office.

Revise: If the committee determines that the student has not demonstrated satisfactory performance, but has not failed one or both questions (and could pass with additional revisions), the revise option allows the student to rewrite the answer(s) or provide additional written work related to the same question(s), which would need to satisfy the student's committee. One month is allowed for satisfactory revisions (which then results in a pass for that question or questions); failure to do a satisfactory revision results in a fail for that question or questions. There can be only one revision, and that will be a pass/fail decision. There is no additional oral exam for the revise option.

Fail: The fail option requires the student to re-sit the examination in those areas where the student has not achieved a pass, including an additional oral exam. A minimum of three favorable votes is needed before one is considered to have passed some or all of the examination. One must ultimately pass both questions to pass the qualifying exams.

Re-sitting the Exam: In the event of a fail on one or both questions, students may re-sit the qualifying examination once only. Re-sitting the examination means that faculty will provide new questions for the required area(s), students will have an additional 10-day take-home exam and submission, and subsequently take an oral exam in the area(s). The two examiners for each question read the new papers and participate in the new oral portion of the examination. If the student has failed in respect to both questions, all four examiners participate in the reading of the new questions and in the new oral portion of the examination.

Dissertation Requirements

Dissertation Requirements

Below is an overview of the dissertation process after the qualifying exam is passed. More detailed and current information is available for current students in the annual program handbook.

1. Selection of Dissertation Chair
In consultation with the program director or area coordinator, the student identifies members of the Ph.D. faculty appropriate to serve as chair given the research topics of interest. The student consults with these individuals, and a chair is determined through process of mutual selection and with final approval of the program director.

2. Selection of Additional Committee Members

The chair and student select three additional faculty members to serve on the dissertation committee. The chair and candidate finalize the committee. A committee consists of the chair plus at least two members from the communication, information, and media (CIM) program faculty and one member outside of the School of Communication and Information, or outside of the university, as appropriate to the dissertation topic. The proposed committee is subject to review and approval by the program director. Additionally, when proposed committee members are not members of the Rutgers University graduate faculty, a CV must be reviewed by the program director who then forwards it to a dean of the School of Graduate Studies for final approval. When approved, a formal letter of invitation and appointment is issued by the School of Graduate Studies. Please allow at least two weeks lead time for such review.

3. Preparation of the Dissertation Proposal

With the guidance of their chair and the committee, the candidate prepares a formal Dissertation Proposal, which will normally include a statement of the research problem and/or rationale for a proposed project, an overview of relevant literature, alternative research methods that might be employed, a statement as to the value of the proposed project, the research protocol, and a bibliography. When the chair is satisfied that the proposal is acceptable in general, the chair schedules a meeting of the committee for purposes of formally reviewing, approving, or suggesting further modifications and notifies the Ph.D. office of the date. The evaluation process includes an oral examination by the chair and committee members. When the proposal is acceptable to the chair and committee, they indicate approval by signing the Dissertation Proposal Title Page. (See Title Page format and click on Dissertation Proposal Sample Title Page). A copy of the signed Title Page and the proposal is given to the Director to be kept on file in the Ph.D. Program Office. The topic of the Dissertation Proposal cannot be changed, subsequent to its approval, except in extraordinary circumstances when adjustments are approved in consultation with the chair and committee members and with the approval of the program director. The SGS requires that the Dissertation Proposal will be signed within one year of passing the qualifying exams.

4. Public Presentation of the Dissertation Proposal (optional)

When the dissertation proposal has been formally approved by the committee, the dissertation chair and candidate may select a date for presentation of the dissertation proposal at a Ph.D. colloquium, held on Wednesday afternoons. Multiple approved dates are available during the fall and spring semesters, and students should sign up for a presentation date through the program office. The signed proposal must be filed with the program office at least one week before the presentation is made. The presentation should include highlights from the proposal document and also allow for a question-and-answer period (approximately 30 minutes total, depending on number of presenters). (See the appendix in the *Ph.D. Faculty and Student Handbook* for additional information on supporting presentation materials.)

5. Dissertation Defense

Throughout the dissertation writing process, the candidate is encouraged to consult with the committee as appropriate to guide their research. When the candidate has completed the dissertation to the satisfaction of the chair, the oral defense can be scheduled at a time that is mutually agreed upon by the candidate, the chair, and the members of the committee. The candidate must send their dissertation to the entire committee no less than two weeks prior to the scheduled dissertation defense. At least two weeks must be allowed for committee members to read the dissertation prior to the oral defense. The chair or the candidate should notify the Ph.D. Director and

Ph.D. Office when the defense is being scheduled and the Office will assist in booking a room and logistics. The SGS requires that the Defense be held at Rutgers, with the chair and candidate physically present. It is allowed for one or two members to attend the meeting virtually (usually the outside member.)

At the oral defense, the candidate is typically removed from the meeting for the first 15 minutes to give the committee time to discuss the dissertation and agree upon lines of questioning. When the student is invited back into the meeting, they are typically asked to give a brief overview of the dissertation prior to the start of questioning. Each committee member is given an opportunity to ask questions of the candidate. When questioning is complete, the candidate is asked to leave the meeting again while the committee consults and decides on the outcome. The chair will make notes about any revisions to the dissertation that are requested by the committee and oversee the implementation of those edits by the candidate. Once a decision is reached, the candidate is invited back into the room and the committee's decision is shared with them.

Prior to scheduling the defense, the candidate should review the SGS's Checklist for Ph.D. Degree and follow all instructions carefully, in order to make sure all appropriate paperwork is submitted to SGS prior to graduation and that the dissertation is properly formatted following the style guide (see link to Checklist) to meet all requirements. Candidates should plan to schedule their dissertation defense at least two weeks prior to the deadline to file all degree requirements with SGS for the desired degree date to allow sufficient time to make revisions and schedule the public dissertation presentation.

6. Final Approval by Committee and Chair

Following the successful defense of the dissertation, the candidate will work in consultation with their chair to implement any revisions that were desired by the committee. When the dissertation is complete in a final form, the chair and committee members acknowledge their approval by signing the title page (See the Ph.D. Program webpage and click on Dissertation Title Page bullet to see the approved format) and the Doctoral Final Defense form (download form). Typically, the committee members will sign these documents at the dissertation defense and the chair will withhold their signature until all revisions are completed. When all revisions have been implemented to the satisfaction of the chair, they will add their signature to these forms to indicate final approval. When approved, the candidate submits one (1) copy of the completed dissertation to the Office of the Ph.D. Program. A check in the amount of $40 (note that this amount may change) to cover the cost of binding must accompany the copy.

7. Public Presentation and Program Director Approval

The Program Director, in consultation with the candidate and the chair, schedules a public presentation, which is required by the SGS and is open to faculty, students, and friends. This is usually scheduled as part of the 600 Ph.D. Colloquium series on Wednesday afternoons at 1:00pm. The candidate also provides 30 copies of the "Abstract" with an attached biographical sketch for distribution to the program faculty and students. (See the Ph.D. Program webpage click on Handbook & Key Forms tab and Dissertation Public Presentation Guidelines).The Public Presentation must be done prior to the SGS deadline for final submission of all degree information.

The presentation should include highlights from the dissertation document and also allow for a question and answer period (approximately 30-45 minutes total). Following a satisfactory presentation, the Program Director indicates final approval of the dissertation by signing the Doctoral Final Defense form (available from the Program Office, and online from SGS), which the candidate must return to the Office of the SGS (25 Bishop Place, CAC). See Dissertation Public Presentation Guidelines.

Timelines for Completing Requirements

Timelines for Completing Requirements

Typically, students taking coursework enroll in three courses each semester (a minimum of two per semester is required even for part-time students). Taking fewer courses than this will substantially add to one's degree completion time and requires special permission from the Ph.D. program director that can be granted only under special circumstances, which need to be documented. It is the view of the program faculty that a student must be immersed in doctoral studies to properly attain this education, and taking one course per semester simply does not facilitate that. Students are bound in terms of the School of Graduate Studies (SGS) seven-year rule for assessment of progress in the program regarding the proposal and dissertation defense.

SGS Seven-Year Policy for Completion of All Requirements for the Ph.D. Degree

Rutgers SGS specifies that all requirements for the Ph.D. degree, including successful defense and presentation of the dissertation, be completed within seven years of matriculation. The SGS seven-year policy on completion of the dissertation applies to full-time and part-time students. Under exceptional circumstances, extensions may be granted by the SGS, upon application and support by the adviser and approval of the Ph.D. director. **It is the student's responsibility to file for such extensions, which must be approved by the program director and SGS**. There are additional constraints imposed on students taking more than 10 years to complete their doctorate. The program is structured in a way that should allow all doctoral students to complete their studies within the seven-year window (and ideally much sooner).

SAMPLE TIMELINES

Sample 4-Year Program Completion Timeline
(This timeline assumes 9 credits each semester [full time] and transfer of 21 master's-level credits.)

Year 1
Fall: 601, two area requirements
Spring: 603 and/or 605, additional methods course, one or two area requirements
Summer: file for transfer of credits at end of semester; select initial adviser if one not assigned; plan for Practicum (608)

Year 2
Fall: 608 (Practium), 604 if required, one or two area requirements
Spring: two or three area requirements; present Practicum findings
Summer: prepare qualifying examination

Year 3
Fall: take written and oral qualifying examination
Spring: dissertation proposal approved
Summer: work on dissertation

Year 4
Fall: dissertation draft completed
Spring: dissertation finished/defended/presented

Sample 6-Year Program Completion Timeline
(This timeline assumes 6 credits each semester [part time].)

Year 1
Fall: 601, one area requirement
Spring: 603 and/or 605, one area requirement or additional methods course
Summer: file for transfer of credits at end of semester; select initial adviser if one not assigned or selected already

Year 2
Fall: 604 if required, one or two area requirements
Spring: 608 (Practicum), one area requirement

Year 3
Fall: two area requirements, present Practicum findings
Spring: one or two area requirements, begin qualifying examination preparation

Year 4
Fall: take written and oral qualifying examination
Spring: dissertation proposal preparation

Year 5
Fall: dissertation proposal approved
Spring: work on dissertation

Year 6
Fall: dissertation draft completed
Spring: dissertation finished/defended/presented

NOTE: These timelines are only rough guides of what is possible. A student's path through the program depends heavily on his or her interests and guidance from adviser.

Ph.D. Admissions (SC&I-G)

PH.D. ADMISSIONS

The Ph.D. program only admits students for a fall semester start; no students are permitted to begin the program in spring. Application deadline for the fall term is December 1 of each year. Applications must be submitted online through the Office of Graduate and Professional Admissions page. Use institution code 2790 to submit official test scores and transcripts. Please do not send any application materials or documents to the School of Communication and Information.

The School of Communication and Information Ph.D. program participates with the Rutgers' School of Graduate Studies in offering its degree.

Evaluation of application

We consider students holistically when making admissions decisions and consider the whole package of materials to determine a candidate's fit in the program and likelihood of success. An application for the Ph.D. program will be evaluated on the basis of:

1. **A personal statement** from the student relating experience and research interests to the Ph.D. program (3-4 pages is typical).
2. **A writing sample.** Examples of acceptable writing samples include a chapter or portion of your master's thesis, a term paper from a previous class, an academic conference paper or journal publication, a professional work product, etc.
3. **A curriculum vita (CV)** listing academic degrees, positions, and accomplishments, or a professional resume.
4. **Three letters of recommendation** from persons with a relationship to the student in academic (or professional) contexts.
5. **Undergraduate and graduate academic transcripts** (records equivalent to at least the 3.0 or B level). Applicants whose studies were undertaken outside the United States must submit an official course-by-course transcript evaluation. The PhD program in Communication, Information and Media will accept transcript evaluations from any member of the National Association of Credential Evaluation Services (NACES), such as WES (World Education Services). A full list of eligible evaluators may be found at the NACES website. Students must submit the NACES Official Evaluation to Rutgers along with the required transcripts. Applicants from Chinese institutions should also request and submit official transcripts through CHESICC. Please see gradstudy.rutgers.edu for details about how to submit your transcripts.
6. Non-native English-speaking applicants must submit the results of the Test of English as a Foreign Language **(TOEFL)** or International English Language Testing System **(IELTS)** or the Duolingo English Test **(DET)**. Results must be from within the last three years. You are exempt from submitting TOEFL, IELTS or DET scores if you have already completed (at the time of application submission) **three or more consecutive academic years** in an undergraduate or graduate curriculum where the only language of instruction was English. Here are the minimum score requirements for admission to the School of Communication and Information:
    - Paper-based TOEFL score: 550
    - Computer-based TOEFL score: 213
    - IBT-internet-based TOEFL: Writing 24, Speaking 24, Reading 22, Listening 19
    - IELTS score: bandwidth 8.0
    - Duolingo score: 125

Graduate Records Exam (GRE) scores are OPTIONAL for applicants. All applications will be reviewed equally with or without GRE scores. Not submitting GRE scores will not hurt an applicant's chances of admission, nor will submitting GRE scores give applicants an advantage in admissions.

Students applying for admission to the Ph.D. program typically have completed a master's degree in communication, information science, library studies, media studies or another related academic or professional field. Highly qualified students from strong programs or research backgrounds without a master's degree may also apply in special circumstances.

We also encourage applicants to reach out to faculty in the Ph.D. program to express interest in working with them, learn more about their program of research, and gain insights into the program.

Advising and Annual Review (SC&I-G)

ADVISING AND ANNUAL REVIEW

PROGRAM ADVISING AND PLAN OF STUDY

Ideally, initial or temporary faculty advisers may be assigned to students when they begin the program based on research interests; if not, one's adviser for the first year is the area coordinator in that student's primary area of study. The initial adviser, in consultation with area faculty and the program director if needed, works with students to develop a preliminary plan of study which includes schedules for completion of necessary prerequisite and required courses, and for transfer of master's degree credits.

In the second semester (ideally prior to course registration for the third semester), each student should select an adviser to guide her or him in their remaining coursework and through the qualifying exam process (this may in many cases be the initial adviser assigned, if both student and faculty member agree to that). The student and this program adviser develop a plan of study designed to prepare the student for qualifying exams and dissertation research in the student's chosen area of study.

Advisers must be full members of the Ph.D. program in communication, information, and media (CIM) faculty. Advisers shall also keep track of their advisees and meet with them regularly, at least once prior to each course registration period, and more frequently as needed. It is, however, ultimately the student's responsibility to stay in close contact with his or her adviser. The advising relationship is one of the most important aspects of graduate education.

Annual Review of Student Progress

All students are encouraged to involve themselves with faculty research as early as possible with multiple and varied research experiences. Doctoral students are required to attend program-sponsored colloquia, regularly held on Wednesday afternoons throughout the academic year. Students are encouraged to also take advantage of the many additional colloquia, conferences, lectures, symposia, and workshops scheduled each year, not only at SC&I, but throughout the university, and at the many other fine research universities in the surrounding metropolitan area. As an additional part of one's doctoral preparation, students are expected to actively submit to and present at various regional, national, and/or international scholarly conferences relevant to their research and to publish their work in appropriate scholarly venues.

The faculty of the Ph.D. program meets each spring semester to review the progress of all students in the program. This review of student progress is conducted initially by members of the faculty within the student's area of study. The executive committee of the Ph.D. program (director and area coordinators) and other interested faculty will

also meet to discuss any problematic situations at a program-wide review. Prior to the review, all students in the program must meet with their advisor and submit a copy of the annual review and individual development plan form (due usually on April 1st). This information is used not only to assess student progress, but also to identify future goals and develop plans and strategies for achieving stated professional pursuits. Doctoral Student Annual Review and Individual Development Plan Forms are submitted online here (click on Annual Review and Individual Development Plan Form in bullet list).

One goal of the annual review is to assure that each student is making expected progress in fulfilling program requirements. Key measures of expected progress include:

- Quality and focus of coursework, including grades
- Minimal number of incompletes, which are taken care of quickly
- Selection of and contact with a primary adviser
- Formation of committees for qualifying examination and dissertation
- Timeliness in completion of requirements (for coursework, qualifying examination, proposal, and dissertation research)
- Involvement in scholarly activities (e.g., conference submissions/presentations)
- Additional expectations for teaching assistants, graduate assistants, and fellows as set by funding departments

The program director and area coordinators are responsible for informing students of the results of the annual review, including faculty recommendations/requirements for resolving difficulties in making progress as expected. An annual letter is prepared and sent to each of the students.

CONFERENCE TRAVEL SUPPORT AND REPORTING ACCOMPLISHMENTS

Two markers of progress beyond coursework and program milestones are your participation at various international, national, and regional conferences and other accomplishments (grants, publications, guest lectures, etc.). The program would like to both support and recognize those.

Travel: Students may apply for travel funds from both the SGS and the CIM Ph.D. program, via the same form and submitted online. This happens three times per year, one week prior to Nov. 1, March 1, and June 1. The program office will announce deadlines for receipt of travel requests and forms must be submitted online (with complete information, including a statement about the importance of the conference to the student's professional development). Those decisions are made within two weeks and students notified of any amounts received soon afterwards. To apply one must be an author on a paper, panel, or poster accepted for a scholarly conference (applications may be submitted no more than six months before the conference and no more than two months after the conference).

Accomplishments: To better promote the activity that you as doctoral students are doing, all students are asked to list any scholarly activity (e.g., conference presentations and posters, invited talks, fellowships received, submitted grant proposals, publications, honors/awards, etc.) in their annual review form. We use these reports to feature you in various venues where the CIM Ph.D. program is being promoted. In addition, please send the note on your accomplishments for schoolwide distribution to this email address: pr@comminfo.rutgers.edu. It is important to submit information when you have activity to report. If you share an accomplishment with a faculty member or another student here in SC&I, only one of you needs to submit it. You will find the published annual lists of student research accomplishments on the CIM Ph.D. program website.

SPECIAL ARRANGEMENTS WITH OTHER PROGRAMS/UNIVERSITIES

The Inter-University Doctoral Consortium is open to doctoral students from participating schools who have completed at least one year of full-time study toward the Ph.D. The consortium accommodates students only in the arts and sciences and in the field of education. Students may, with the required permissions, attend courses at any other participating school as part of their home school registration. The program permits up to two courses that may count toward degree requirements at these other schools. For more information and relevant forms, contact the Rutgers SGS. Participating schools are:

Columbia University, GSAS

CUNY Graduate Center

Fordham University GSAS

Graduate Faculty, New School University

New Jersey Institute of Technology

New York University, GSAS

Princeton University - The Graduate School

Rutgers University, School of Graduate Studies

Stony Brook University

Teachers College, Columbia University

University of Pennsylvania

Additionally, we have a double-degree program available between students interested in organizational communication and organization management. Contact the program office for additional details.

Financial Support (SC&I-G)

Financial Support

Several types of financial support are available to highly qualified students. In most cases, students applying by December 1 are considered automatically for funding as part of the admissions process. A few awards are also available for students further along in their doctoral studies. All awards are highly competitive.

SC&I offers the following highly competitive forms of support:

- Teaching Assistantships
- Graduate Assistantships
- SC&I Fellowships
- Hourly-paid work to assist with instruction or research

Teaching and Graduate Assistantships include a salary, general health benefits, and tuition remission. Other forms of support generally do not include benefits or tuition remission.

The Ph.D. program also provides travel grants to students presenting scholarship at scholarly conferences regionally, nationally, and internationally.

Rutgers University also provides various forms of highly competitive support:

- Presidential Fellowships
- Diversity Fellowships
- Bevier Fellowships
- Teaching/Graduate Assistantships in other departments
- Grant funding outside SC&I
- Learning Community Coordinators, Dorm RAs, and other full-time staff jobs

The Rutgers School of Graduate Studies also provides some travel grants/assistance. Notably, they also run the GradFund database. GradFund helps graduate students at Rutgers receive more than $2 million annually from a variety of funders outside Rutgers.

Other forms of support (e.g., Spectrum Fellowships; Fulbright; international government and corporate sponsorships; and part-time, adjunct and full-time teaching positions at nearby schools) may also be available.

Students eligible for need-based financial aid should contact the graduate admissions office for additional information.

Ph.D. Career Opportunities (SC&I-G)

PH.D. CAREER OPPORTUNITIES

Communication, library and information science, and media studies are rapidly growing areas. Individuals with expertise in communication and information research, theory, and policy are in demand in universities; business and industry; government; and academic, public, and special libraries.

Ph.D. Faculty (SC&I-G)

PH.D. FACULTY

The Ph.D. program faculty in the School of Communication and Information (SC&I) is a body that makes key administrative and curriculum decisions related to this program, which is offered jointly through Rutgers School of Graduate Studies (SGS). The program faculty meets wice every semester, and students are invited to attend and speak (but not as voting members) unless the director declares a meeting open to voting members only (e.g., when conducting annual reviews of students).

Full, associate, and affiliate members of the Ph.D. faculty

- Full-time tenure-track faculty members in SC&I are typically considered full members of the Ph.D. faculty.

- Non-tenure track SC&I faculty, tenured or tenure-track faculty from other programs at Rutgers, as well as retired, emeritus or former SC&I faculty who are still participating in the program are generally associate members.
- Affiliate members of the program include individuals from outside Rutgers University as well as non-tenure track Rutgers faculty outside of SC&I.

Full and affiliate members of the graduate faculty may serve as a member of a student's dissertation committee. Only full members may chair a qualifying exam or dissertation committee. Full and associate (but not affiliate) members have voting rights in this program.

Ph.D. Program Faculty

For a current list of all faculty members in the Ph.D. program, see the *Ph.D. Student and Faculty Handbook.*

Ph.D. Courses (SC&I-G)

PH.D. IN COMMUNICATION, INFORMATION, AND MEDIA COURSES

16:194:600 ***Ph.D. Colloquium (0)***
Required each semester in coursework. Forum for the presentation of research and professional activities by guest speakers, faculty, and students.

16:194:601 ***Communication, Information, and Media Proseminar (3)***
The proseminar addresses nature of communication, information, and media processes and their role in individual, social, and institutional behavior. Particular emphasis will be on the conceptual linkages between communication, information, and media processes, as well as theory and metatheory. Panels will alternate between interdisciplinary and area-specific topics featuring communication, information, and media (CIM) program faculty as speakers. Proseminar will include topics in professional development, academic integrity, responsible and ethical conduct of research, intellectual property. Students will pass the human subjects certification program as part of the course.

16:194:602 ***Research Foundations (3)***
Concepts, methods, and practices of social science research in relation to communication, information science, and media studies.

16:194:603 ***Qualitative Research Methods (3)***
Qualitative approaches for examining communication, media, and information processes, including definition, acquisition, evaluation, and use.
Prerequisites: 16:194:601, 602.

16:194:604 ***Quantitative Research Methods (3)***
Examines facets of research, problem areas, research techniques, and range of techniques (including experimental designs). Each student develops a research methods proposal relating to a chosen topic.
Prerequisites: 16:194:601, 602, and statistics competency.

16:194:605 ***Critical Research Methods (3)***
Issues, debates, and techniques related to textual and contextual analysis of media and other forms of data.
Prerequisite: 16:194:601.

16:194:608 ***Research Practicum (3)***
Students conduct original research under the supervision of one or more members of the program faculty and produce a scholarly paper to be submitted to a recognized conference or refereed journal. Results are presented at an interactive display session held each semester.

16:194:610 ***Seminar in Information Studies (3)***
The purpose of this course is to provide a theoretical and historical overview of important scholarly paradigms and research questions in the field of library and information science (LIS). Emphasis is on broad coverage of LIS research and historical perspectives that serve as a foundation for contemporary scholarship. Additional topics will be selected by the instructor based on her or his prioritization, and given the evolving landscape of LIS scholarship. Scholarly paradigms and topics in the field of LIS will be situated in wider epistemological contexts as relevant.

16:194:612 ***Human Information Behavior (3)***
Human information behavior is the study of human behavioral interactions with information, the situations (contexts) in which the interactions occur, and the design of information systems and services that more readily facilitate the design and use of information systems. This course provides students with an overview of historical and emerging directions in human information behavior research. It covers both theoretical and methodological perspectives, including experimental design and observational approaches. The course aims to generate in students both a theoretical and practical understanding of human information behavior and to provide a solid foundation for conducting original research in this field.

16:194:614 ***Information Retrieval Theory (3)***
Examines the basic problems of information retrieval (IR) from theoretical and experimental points of view. Develops a basis for the specification of design principles for IR systems.

16:194:617 ***Knowledge Representation for Information Retrieval (3)***
Concurrent consideration of options for knowledge representation, methods for evaluating the effect of these options on costs and effectiveness, and research relating to knowledge representation for information retrieval.

16:194:619 ***Experiment and Evaluation in Information Systems (3)***
Measures, models, and methods for macroevaluation of impact of information systems within their environment and for microevaluation of performance of system components. Examines the design, conduct, and results associated with experiments.

16:194:620 ***Interpersonal Communication (3)***
Contemporary theories and major lines of classic and current research concerning interpersonal communication.

16:194:621 ***Organizational Communication Research (3)***
Survey of major theories, methods, and research topics in the study of organizing and organizations. Examines a range of micro and macro topics related to organizing and organizations and the role of information and communication in those processes.

16:194:622 ***Health Communication (3)***
Provides an overview of the major areas of health communication, including health communication campaigns, physician-patient communication, and communication among health professionals and individuals affected by health issues.

16:194:623 ***Research Design (3)***
Provides an overview of the epistemological philosophies that guide research in communication. Develops a foundation for collecting, measuring, and analyzing data to address a research question or problem.

16:194:624 ***Communication Theory (3)***
Examines theoretical paradigms that are foundational to the field of communication and promotes engagement with the mechanisms, processes, and tools involved in theory construction.

16:194:626 ***Organizational Communication Networks (3)***
Theory, concepts, methods, and analysis for understanding and applying social networks to organizational contexts.

16:194:627 ***Work and Communication Technology (3)***
This class examines key challenges, opportunities, and policies at the intersection of communication technology use and the workplace.

16:194:628 ***Social Media (3)***
Provides a theoretical orientation to the examination of social media. Topics discussed include issues of self-presentation, identity, privacy, youth and social media, information exchange, political participation, social networks, social capital, virtual worlds, collective action, and work.

16:194:631 ***Media Theory (3)***
Current mass communication theories and approaches analyzed from a research perspective. Topics include: critical theory, audience ethnography, uses and gratifications, socialization processes and effects, and agenda setting.

16:194:632 ***Scholarly and Scientific Communication (3)***
Study of the processes through which scholarly, scientific, and technical ideas are communicated: mentoring; professional, national, and international information networks; scholarly and scientific publishing; examines other aspects of specialized information transfer.

16:194:633 ***Mediated Communication (3)***
Examines newly emerging mediated communication technologies (e.g., mobile phones and internet) and how they relate to individuals, organizations, and society; also examines how social forces affect adoption and usage patterns of mediated technologies.

16:194:634 ***Experiential Media (3)***
Students engage in a theoretical examination of experiential media (e.g., augmented reality, virtual reality). Readings provide a perspective on the development of experiential media, including implications for the transformation of media content forms and platforms in an experiential context. Students consider methodological and critical approaches to studying experiential media.

16:194:635 ***Health Communication Campaigns (3)***
Focuses on the design, implementation, and evaluation of communication programs designed to change health behavior of individuals, groups, and entire populations.

16:194:636 ***Interpersonal Health Communication (3)***
This course overviews major themes of interpersonal health communication, including issues such as physician-patient communication, relationships for individuals with health issues, and the relationship of communication to physical and mental health outcomes.

16:194:637 ***Mediated Health Communication (3)***
Focuses on how mediated communication is transforming health/medical practice and affecting health policy processes. Topics range from the way mediated communication sources affect the search for and acquisition of health information to the way these technologies are used to affect the behavior of individuals, groups, and entire populations.

16:194:638 ***Language and Social Interaction (3)***
This course examines the language and social interaction (LSI) approach to studying human communication. We consider the epistemological and theoretical underpinnings of LSI scholarship; overview key research traditions within LSI; and explore the unique contributions of LSI scholarship to the communication discipline across its several subfields.

16:194:641 ***Media Law and Policy (3)***
Focuses on the intersections of law, policy, and technology, examining attempts to regulate digital media and information flows. The course considers the tensions among freedom, control, individual liberty, and societal good inherent in attempts to regulate a developing media landscape.

16:194:642 ***Information Regulation and Law (3)***
Information law and regulation; focus on the historical and contemporary legal and regulatory issues stemming from the application of information technology.

16:194:643 ***Information Indicators (3)***
Integrated treatment of measures, indicators, and methods for quantitative description of information and communication systems, resources, and activities. Emphasis on drawing relations among different measures and application to information policy studies.

16:194:645 ***Advanced Concepts in Management of Information Organizations (3)***
Systematic consideration of the evolution of management theory leading to an evaluation of contemporary theoretical and research issues in planning, organizing, staffing, leading, and controlling the information organization.
Prerequisite: 17:610:508 or equivalent.

16:194:648 ***Organizational Assessment and Change (3)***
Systematic consideration of the theories and strategies of assessment, planning, development, and change at the organizational and programmatic levels in nonprofit and profit-seeking information organizations.

16:194:656 ***Theories and Issues in Library Studies (3)***
Seminar examines the intellectual foundations for librarianship as a discipline, the development of a broadened understanding of pervasive theories and research issues, and the identification and exploration of research literature in librarianship and pertinent allied fields.

16:194:662 ***Media Criticism (3)***
The course provides an overview of theories, principles, and research that inform the practice of media education worldwide. Theories of media education, various approaches to media pedagogy, and contemporary research problems are addressed.

16:194:663 ***Media History (3)***
The course examines the history of print and electronic news media, considering them not as freestanding institutions but as key parts or aspects of wider cultural and political developments, and situating them in their historical context.

16:194:664 ***Media and Culture (3)***
Cultural approaches to media studies, with a focus on major theories and critical analysis of media and popular culture. Topics include: cultural theory; aesthetics and taste; representation and ideology; consumer culture; media, culture, and identity; gender, race, class, and sexuality in media; and fandom and subcultures.

16:194:665 ***Media and Politics (3)***
Theories and research relating old and new media to political decision-making. Topics include public attitudes and opinion, media policy, interest articulation, political culture, ideology, rhetoric and content analysis, framing, and agenda setting.

16:194:666 ***Social Construction of News (3)***
Surveys and critiques social science research on news and the news media. Examines diverse scholarly perspectives, comparing them with the views of journalists, journalism critics, and the public.

16:194:670,671,672,673,674 ***Topics in Communication Processes I,II,III,IV,V (3,3,3,3,3)***

16:194:675,676,677,678,679 ***Topics in Library and Information Science I,II,III,IV,V (3,3,3,3,3)***

16:194:680,681,682,683,684 ***Topics in Media Studies I,II,III,IV,V (3,3,3,3,3)***

16:194:695 ***Teaching Apprenticeship (0)***
A noncredit teaching apprenticeship designed to provide doctoral candidates with classroom experience. The apprentice will work with a participating SC&I member of the graduate faculty to develop a plan for the apprentice's work.

16:194:696,697 ***Special Topics (3,3)***
Section 01 - Communication
Section 02 - Library and Information Science
Section 03 - Media Studies

16:194:698,699 ***Independent Study (3,3)***
As a general rule, students only take independent study credits when no course offerings matching their needs are available. In no case should a student have more than one independent study as an elective counting toward their

minimal doctoral degree requirements (unless director and area coordinator approve such a request). Students may take additional independent studies as long as they are not used to fulfill minimal program credit requirements. In other words, only one independent study will count toward degree credits.

16:194:701,702 ***Dissertation Research (BA, 1-12)***

16:194:800 ***Matriculation Continued (0)***

16:194:811 ***Graduate Fellowship (0)***

16:194:866 ***Graduate Assistantship (6)***
(Assistantship credits for funded graduate and teaching assistants do NOT count toward degree requirements in the Ph.D. program.)

16:194:877 ***Teaching Assistantship (6)***
(Assistantship credits for funded graduate and teaching assistants do NOT count toward degree requirements in the Ph.D. program.)

Continuing and Professional Studies (SC&I-G)

CONTINUING AND PROFESSIONAL STUDIES

The education of professionals does not end with the achievement of a degree. Professional competence requires a commitment to lifelong learning and a continuing effort to update knowledge and skills as workplace needs and technologies change. Consequently, the school provides the means for acquiring specialized competencies, gaining skills in new areas, and updating professional knowledge and techniques. A range of individual courses and certificate programs are available, all offered online. Organizations may contract for customized in-house training to meet their employees' continuing education and professional development needs.

Communication Certificate Programs
Crisis Communication and Reputation Management Certificate

The Crisis Communication and Reputation Management Certificate is a six-month online program designed to equip professionals with essential skills to navigate crises and protect their organization's reputation. Explore real-world case studies, media strategies, and crisis planning essentials from seasoned professionals.

Public Relations Certificate

The Public Relations Certificate is a six-month online program designed for PR professionals seeking to enhance their expertise and navigate the evolving PR landscape. The program covers topics such as social media management, PR measurement, advanced writing, and ethics, with hands-on learning through case studies and collaborative projects.

Digital Asset Management Certificate Programs

Digital content surrounds us in our professional and personal lives. The digital media boom has opened a flood of rich media content, including photos, video files, audio clips, animations, and many others that have become components of organizational assets. Organizing, classifying, and retrieving these digital assets is a challenge for

organizations today. Digital Asset Management (DAM) is the practice of making such content accessible and available for all stakeholders within and beyond an organization. The need for effective management and retrieval of digital artifacts from corporations to museums continues to evolve and grow.

Digital Asset Management Bronze Certificate

Whether you are new to digital asset management or a seasoned veteran looking for advanced and continuing professional education, the Rutgers Digital Asset Management Bronze Certificate program is the first step to skill up in the world of DAM. This certificate includes six four-week online courses and is ideal for individuals aiming to delve deeply and comprehensively into the facets of DAM while bolstering their skills in their existing DAM positions or preparing for their next career advancement.

Digital Asset Management (DAM) and Artificial Intelligence (AI) Silver Certificate

The Rutgers Digital Asset Management (DAM) and Artificial Intelligence (AI) Silver Certificate is a 12-week online program designed to provide a practical foundation in artificial intelligence fundamentals, strategy, and its applications within DAM. You'll gain the skills and knowledge needed for a content-oriented AI strategy to enable the integration and adoption of capabilities that are aligned with your organization's goals.

Digital Asset Management for Galleries, Libraries, Archives, and Museums (DAM for GLAM) Silver Certificate

The Rutgers Digital Asset Management for Galleries, Libraries, Archives, and Museums (DAM for GLAM) Silver Certificate is a 12-week online program that delves deeply into the principles and practices integral to organizing, preserving, and sharing digital assets and collections. You'll gain a holistic understanding of key strategies, including file standards, metadata utilization, workflow optimization, quality control, storage hierarchies, monitoring, and format migration.

Strategic Digital Asset Management (DAM) Operations Silver Certificate

The Rutgers Strategic Digital Asset Management (DAM) Operations Silver Certificate is a 12-week online program tailored for those with professional fluency in DAM operations and graduates of the Rutgers DAM Bronze Certificate who are looking to enhance their understanding and management of the distinct types of assets that are crucial to DAM success. The curriculum covers video asset management, the capture and management of rights and permissions data, and technical DAM knowledge in areas including connected metadata, relational models, master data management (MDM) and more.

Advanced Creative Operations Silver Certificate Program

The Advanced Creative Operations Silver Certificate is designed for seasoned professionals within creative operations seeking to elevate their careers and drive innovation within creative operations teams and organizations. This 12-week online program equips you with the tools and insights essential for professional growth and strategic leadership.

PARTNERSHIPS AND CUSTOMIZED TRAINING

For information about how to request customized training for an organization, or how to partner with Continuing and Professional Studies to enable employees to enroll at a discount in public enrollment classes, contact the office at

cps@comminfo.rutgers.edu

848-932-7169

School of Communication and Information, Continuing and Professional Studies Department, 4 Huntington Street, New Brunswick, NJ 08901

FOR MORE INFORMATION

Continuing and Professional Studies certificate programs are non-credit. Space is limited; apply early to join the next cohort. Details about requirements and application deadlines is online. Also check the FAQ online.

Faculty and Administration (SC&I-G)

FACULTY AND ADMINISTRATION

Administration

Dean's Office Faculty

Department of Communication

Department of Journalism and Media Studies

Department of Library and Information Science

Administration (SC&I-G)

Administration

Mark Aakhus, Interim Dean and Professor of Communication

Susan Keith, Associate Dean for Programs and Professor of Journalism and Media Studies

Karen Hundert Novick, Associate Dean for Administration

Blain Bradley, Assistant Dean for Development

Chandu Dondeti, Assistant Dean for Information Technology

Kevin J. Ewell, Assistant Dean for Student Services

Bernadette Gailliard, Assistant Dean for Diversity, Equity, and Inclusion

Julie Johnson, Director of Professional Development Studies

Brenda Sheridan, Director of Marketing and Communications

Sharon Stoerger, Assistant Dean for Programs and Assessment

Simona Turcu, Director of Business and Administration

Dean's Office Faculty (SC&I-G)

Dean's Office Faculty

Mary Chayko, Director of Undergraduate Interdisciplinary Programs and Distinguished Teaching Professor; B.A., Seton Hall; Ed.M., M.A., Ph.D., Rutgers

Roxane Gay, Gloria Steinem Endowed Chair in Media, Culture, and Feminist Studies; B.A., Norwich; M.A., Nebraska (Lincoln); Ph.D., Michigan Technological.

Department of Communication (SC&I-G)

Department of Communication

Chair: Marya Doerfel

Mark Aakhus, Professor; B.A., North Dakota; M.A., Washington State; Ph.D., Arizona

Mark Beal, Assistant Professor of Professional Practice in Public Relations; B.A., Rutgers; M.A., Kent State

Galina Bolden, Professor; B.A., Minnesota; M.A., Ph.D., California (Los Angeles)

Erin Christie, Assistant Teaching Professor; B.A., Rowan; M.A., Montclair; Ph.D., Rutgers

Marya Doerfel, Professor and Chair; B.A., M.A., Ph.D., SUNY (Buffalo)

Richard Dool, Teaching Professor; B.A., Fordham; M.S., Thomas Edison State; M.A., Seton Hall; D.Mgmt., Maryland

J. Sophia Fu, Associate Professor; B.A., Hong Kong Baptist; M.A., M.S., and Ph.D., Northwestern

Kathryn Greene, Distinguished Professor; B.A., M.A., Ph.D., Georgia

Brian Householder, Associate Teaching Professor; B.A., Humboldt State; M.A., Wake Forest; Ph.D., Georgia

Shawnika Hull, Associate Professor; B.A., Arizona; M.A., Ph.D., Pennsylvania

Jeffrey Lane, Associate Professor; B.A., Wesleyan; M.A., Ph.D., Princeton

Jianing Li, Assistant Professor; B.A. Peking (China); M.A., Ph.D., Wisconsin-Madison

Eugene Lee, Assistant Professor; B.A., M.A., Ewha Womans (South Korea); M.A., Minnesota Twin Cities; Ph.D., Southern California

Nikolaos Linardopoulos, Associate Teaching Professor; B.A., McGill (Canada); M.S., Ph.D., Drexel

Matthew Matsaganis, Associate Professor; B.A., National and Kapodistrian (Greece); M.A., Emerson; M.A., Ph.D., Southern California

Lisa Mikesell, Associate Professor; B.A., Pennsylvania; M.A., Ph.D., California (Los Angeles)

Nitzan Navick, Assistant Professor; B.A., California State, Channel Islands; M.A., Ph.D., California (Santa Barbara)

Katherine (Katya) Ognyanova, Associate Professor; B.Sc., M.A., Technical (Sofia) (Bulgaria); Ph.D., Southern California

Yonaira Rivera, Assistant Professor; B.S., Rutgers; M.P.H., Emory; Ph.D. Johns Hopkins

Brent Ruben, Distinguished Professor, Advisor for Strategy and Planning, Office of the Executive Vice President for Academic Affairs; Senior University Fellow, Rutgers Center for Organizational Leadership; Distinguished Professor; B.A., M.A., Ph.D., Iowa

Kristina Scharp, Associate Professor; B.A., Richmond; M.A., Ph.D., Iowa

Sarah Shugars, Assistant Professor; B.A., Clark; M.A., Emerson; Ph.D., Northeastern

Lea Stewart, Director, Center for Communication and Health Issues; Professor; B.A., Allegheny; M.A., Ph.D., Purdue

Jennifer Theiss, Professor; B.A., St. Norbert; M.A., Ph.D., Wisconsin (Madison)

Maria Venetis, Professor; B.A., M.A., Southern Mississippi; Ph.D., Rutgers

Matthew Weber, Professor; B.S., M.S., Northwestern; M.A., Ph.D., Southern California

Dajung (DJ) Woo, Associate Professor; B.A., Ewha Womans (South Korea); M.A., Kansas State; Ph.D., California (Santa Barbara)

Itzhak Yanovitzky, Professor; B.A., M.A., Haifa (Israel); Ph.D., Pennsylvania

Department of Journalism and Media Studies (SC&I-G)

Department of Journalism and Media Studies

Chair: Lauren Feldman

Melissa Aronczyk, Professor; B.Mus., Grad.Dipl., Montreal; Ph.D., New York

Neal Bennett, Assistant Professor of Professional Practice; B.A., Rowan; ED.M., Rutgers

Jack Bratich, Professor; B.A., Truman State; Ph.D., Illinois (Urbana-Champaign)

Mary D'Ambrosio, Associate Professor of Professional Practice; B.S., Syracuse; M.Sc., London School of Economics and Political Science

Lauren Feldman, Professor and Chair; B.A., Duke; M.A., Ph.D., Pennsylvania

Brooklyne Gipson, Assistant Professor; B.A., California (Los Angeles); M.A.S., Arizona State; M.S., M.A., Ph.D., Southern California

David Greenberg, Distinguished Professor; B.A., Yale; M.A., Ph.D., Columbia

Amy B. Jordan, Distinguished Professor; B.A., Muhlenberg; M.A., Ph.D., Pennsylvania

Susan Keith, Associate Dean and Professor; B.A., Montevallo; M.A., South Florida; Ph.D., North Carolina (Chapel Hill)

Youngrim Kim, Assistant Professor; B.A., California (Berkeley); M.A., Seoul National; Ph.D., Michigan (Ann Arbor)

Deepa Kumar, Professor; B.A., Bangalore (India); M.A., Ph.D., Pittsburgh

Dafna Lemish, Dean and Distinguished Professor; B.A., Tel Aviv; M.A., Hebrew; Ph.D., Ohio State

David Love, Assistant Teaching Professor; B.A., Harvard; J.D., Pennsylvania

Gina Marcello, Associate Teaching Professor, B.A., M.C.I.S., Ph.D., Rutgers

Regina Marchi, Professor; B.A., Bates; M.A., San Francisco State; Ph.D., California (San Diego)

Steven Miller, Professor of Professional Practice; Director of Undergraduate Studies; B.A., M.A., Rutgers

John V. Pavlik, Distinguished Professor; B.A., Wisconsin; M.A., Ph.D., Minnesota

Caitlin Petre, Associate Professor; B.A., Wesleyan; M.A., Ph.D., New York

Alyse Shorland, Assistant Teaching Professor; B.A., Virginia; M.A., New York

Celeste Wagner, Assistant Professor, Licenciature, San Andres (Argentina); M.A., Ph.D., Pennsylvania

Khadijah White, Associate Professor; B.A., Swarthmore; M.A., Ph.D., Pennsylvania

Todd Wolfson, Associate Professor; B.A., Duke; Ph.D., Pennsylvania

Department of Library and Information Science (SC&I-G)

Department of Library and Information Science

Chair: Rebecca Reynolds

Amelia Acker, Associate Professor; B.A., California (Irvine); M.L.I.S., Ph.D., California (Los Angeles)

Denise Agosto, Professor, B.S., Georgetown; M.L.I.S., Texas (Austin); Ph.D., Rutgers

Eiman Ahmed, Teaching Instructor; B.S., Pace; Ph.D., Rutgers

Warren Allen, Associate Teaching Professor and Director of the Information Technology and Informatics Program; B.A., Delaware; M.A., Georgetown; Ph.D., Drexel

Tawfiq Ammari, Assistant Professor, B.Sc., Jordan; M.S.I., Ph.D., Michigan

Marc Aronson, Associate Professor of Professional Practice; Ph.D., New York

LeAnne Barclay-Platenburg, Assistant Teaching Professor; B.Sc. Long Island; M.S., New York; Ph.D., Walden

Brenda Boyer, Lecturer; M.L.S., Villanova; Ph.D., Capella

Jessica (Yi-Yun) Cheng, Assistant Professor; B.A., M.A., National Taiwan; Ph.D., Illinois (Urbana-Champaign)

Kaitlin L. Costello, Associate Professor; B.A., Vassar; M.S., Illinois (Urbana-Champaign); Ph.D., North Carolina (Chapel Hill)

Marija Dalbello, Professor; B.A., Zagreb (Croatia); M.L.S., Kent State; Ph.D., Toronto

Suchinthi Fernando, Assistant Teaching Professor; B.Sc., Moratuwa (Sri Lanka); M.Eng. and D.Eng., Nagaoka University of Technology (Japan)

Kiran Garimella, Assistant Professor; B.Tech, M.S., IIIT Hyderabad (India); Ph.D., Aalto (Finland)

Shagun Jhaver, Assistant Professor; B.Tech.,Indian Institute of Technology; M.S., Texas (Dallas); Ph.D., Georgia Tech

GoUn Kim, Assistant Teaching Professor; B.A., Sookmyung Women's; M.L.I.S., Ph.D., Rutgers

Sunyoung Kim, Associate Professor; B.A., Yonsei; M.S., Georgia Institute of Technology; Ph.D., Carnegie Mellon

Nancy Kranich, Teaching Professor; B.A., M.A., Wisconsin (Madison); M.S., New York

E.E. Lawrence, Assistant Professor; A.B., Michigan (Ann Arbor); M.L.S., Maryland (College Park); Ph.D., Illinois (Urbana-Champaign)

Alex (Jiahong) Lu, Assistant Professor; B.E. Nanyang Technological (Singapore); M.S.W., M.S.I., Ph.D., Michigan (Ann Arbor)

Brendan Mahoney, Assistant Teaching Professor; SUNY (Geneseo); M.A., Ph.D., Pennsylvania

Ali Motamedi, M.Sc., Amirkabir (Iran); M.F.A., Hunter College (CUNY); Ph.D.; Akron

Jon L. Oliver, Associate Professor; M.A., Ph.D., Rutgers

Britt S. Paris, Associate Professor; B.J., Missouri; M.A., New School; Ph.D., California (Los Angeles)

Lilia Pavlovsky, Teaching Professor; B.A., Canisius ; M.L.S., Ph.D., Rutgers

Rebecca Reynolds, Associate Professor and Chair; B.A., Tufts; M.A., Ph.D., Syracuse

Charles Senteio, Associate Professor; B.A., Central Connecticut State; M.B.A., Michigan (Ross School of Business); M.S.W., Ph.D., Michigan

Vivek K. Singh, Associate Professor; B.E., M.C., Singapore; Ph.D., California (Irvine)

Anselm Spoerri, Associate Teaching Professor; B.S., London; M.S., Ph.D., Massachusetts Institute of Technology

Kaushal Trivedi, Assistant Teaching Professor; B.S., Maharaja Sayajirao (India): M.S., Stevens Institute of Technology

Joyce Valenza, Associate Teaching Professor; B.A., SUNY (Binghamton); M.L.S., CUNY (Queens) and Villanova; Ph.D., North Texas

Robert Wolfe, Assistant Professor, B.A., Maryland; M.A., M.S., Georgetown; M.S., Ph.D., Washington

Programs, Faculty, and Courses (SGS)

Programs, Faculty, and Courses

Anthropology 070

Art History 082

Atmospheric Science 107

Bioenvironmental Engineering 116

Biomedical Engineering 125

Business and Science 137, 196, 345

Chemical and Biochemical Engineering 155

Chemistry and Chemical Biology 160

Chinese 165

Civil and Environmental Engineering 180

Classics 190

Communication, Information, and Media 194

Comparative Literature 195

Computer Science 198

East Asian Languages and Cultures 217

Ecology and Evolution 215

Economics 220

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Electrical and Computer Engineering 332

Endocrinology and Animal Biosciences 340

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Entomology 370

Environmental Engineering 366

Environmental Sciences 375

Exposure Science 121

Food and Business Economics 395

Food Science 400

French 420

Genetic Counseling 681C

Geography 450

Earth and Planetary Sciences 460

German 470

Global Sports Business 475

Higher Education 507

History 510

Industrial Relations and Human Resources 545

Industrial and Systems Engineering 540

Interdisciplinary 554

Italian 560

Kinesiology and Applied Physiology 572

Landscape Architecture 550

Linguistics 615

Management 620

Materials Science and Engineering 635

Mathematics 640, 642, 643

Mechanical and Aerospace Engineering 650

Medicinal Chemistry 663

Microbial Biology 682

Molecular Biosciences 695
- Biochemistry 115
- Cell and Developmental Biology 148
- Microbiology and Molecular Genetics 681
- Pharmacology, Cellular and Molecular 718
- Physiology and Integrative Biology 761

Music 700

Neuroscience 710

Nursing 705

Nutritional Sciences 709

Oceanography 712

Packaging Engineering 731

Pharmaceutical Science 720

Philosophy 730

Physics and Astronomy 750

Planning and Public Policy 762

Plant Biology 765

Political Science 790

Political Science UNMA 790J

Psychology 830

Public Health 832

Quantitative Biomedicine 848

Religious Studies 840

Social Work 910

Sociology 920

Spanish 940

Statistics 960
- Statistics - Data Science 954
- Statistics - Financial Statistics and Risk Management 958

Toxicology 963

Women's, Gender, and Sexuality Studies 988

Certificates:

Cognitive Science 185

Geospatial Information Science 455

Human Dimensions of Environmental Change Graduate Certificate Program 378

Latin American Studies

Science and Technology Management 885

Anthropology 070 (SGS-ANTHRO)

ANTHROPOLOGY 070

Degree Programs Offered: M.A., M.S., Ph.D.

Please visit the Anthropology website.

The Graduate Program in Anthropology at Rutgers trains students to investigate fundamental questions about humanity—how humans and other primates evolved, how societies organize meaning and power, and how lives are shaped by historical, ecological, and political forces. Students work across qualitative and quantitative methods to produce research that is theoretically engaged, empirically grounded, and attentive to the ethical and practical challenges of studying human life in a changing world.

The program is organized around two complementary tracks: Critical Interventions in Theory and Ethnography (CITE) and Human Evolutionary Sciences (HES).

The CITE track provides advanced training in cultural, linguistic, and medical anthropology. Students examine how social worlds are made and contested through language, labor, care, media, law, and governance, with particular attention to inequality, migration, environment, health, and global political processes. CITE emphasizes ethnographic research, critical theory, and historically grounded analysis, preparing students for scholarship that engages both academic and public audiences.

The HES track focuses on the evolutionary, biological, and ecological dimensions of human and non-human primate life. Faculty and students conduct research in archaeology, human paleontology, primatology, human behavioral ecology, and evolutionary biology, using field- and laboratory-based approaches to understand long-term processes of adaptation, variation, and survival. HES research situates contemporary human behavior within deep evolutionary and environmental histories.

Together, these tracks reflect the department's commitment to anthropology as an integrative discipline—one that bridges biology and culture, deep time and the present, theory and empirical research.

Faculty

Ousseina Alidou, Ph.D., Indiana

Emily Barrett, Ph.D., Harvard

Ulla Dalum Berg, Ph.D., New York

Christina Bergey, Ph.D., New York University

Akissi Britton, Ph.D., CUNY

Dan Cabanes, Ph.D., Universitat Rovira i Virgili

Susan Cachel, Ph.D., Chicago

Lee Cronk, Ph.D., Northwestern

Siobhán Cully, Ph.D., Washington

Hylke De Jong, Ph.D., Bristol (UK)

Omar Dewachi, Ph.D., Harvard

Maria Dominguez-Bello, Ph.D., Aberdeen

Craig Feibel, Ph.D., Utah

R. Brian Ferguson, Ph.D., Columbia

Parvis Ghassem-Fachandi, Ph.D., Cornell

Peter Guarnaccia, Ph.D., Connecticut

Zeynep Gursel, Ph.D., California (Berkeley)

Alex Hinton, Ph.D., Emory

David Hughes, Ph.D., California (Berkeley)

Walton Johnson, Ph.D., London

Pamela McElwee, Ph.D., Yale

Robert Miskewitz, Ph.D., Stevens Institute of Technology

Ryne Palombit, Ph.D., California (Davis)

Victoria Ramenzoni, Ph.D., Georgia

Pilar Rau, Ph.D., New York University

Trinidad Rico, Ph.D., Stanford

Kathleen Riley, Ph.D., CUNY

Isaias Rojas-Perez, Ph.D., Johns Hopkins

Carmel Schrire, Ph.D., Australian National

Robert Scott, Ph.D., Texas (Austin)

Genese Sodikoff, Ph.D., Michigan

Paola Tartakoff, Ph. D., Columbia

Christien Tompkins, Ph.D., Chicago

Erin Vogel, Ph.D., Stony Brook

Jinchuan Xing, Ph.D., Louisiana (Baton Rouge)

Asli Zengin, Ph.D., Toronto

Degree Requirements

Degree Requirements

Ph.D. Requirements:

Students need a total of 72 credits to graduate.

Students in the Human Evolutionary Sciences (HES) track of the Ph.D. program in Anthropology are required to take a minimum of 30 approved course credits. Students entering the *Human Evolutionary Sciences program* must take the following core courses, which will be offered in a regular cycle: 16:070:561 Human Behavioral Ecology, 16:070:558 Evolution of the Hominidae, 16:070:568 Primate Ecology and Social Behavior, 16:070:508 Evolutionary Theory & Processes, 16:070:502 Proseminar in Anthropology II, and 16:070:579 Archaeological Sciences. In addition, all HES students must take one course in Statistics such as 01:960:401 Basic Statistics for Research (or an equivalent). If a student took an equivalent course as a MA/MS student prior to coming to Rutgers, that fulfills the requirement. Students in HES are not allowed to take more than three independent study courses.

Students in the CITE track of the Ph.D. program in Anthropology are required to take 36 approved course credits. This applies to all students who entered the program after Fall 2015. Students in the CITE track must take 16:070:505 History of Anthropological Theory, 16:070:506 Research Design and Methods in Social/Cultural Anthropology, 16:070:507 Anthropology, Theory, Ethnography, and 16:070:514 Language as Social Action. These courses are offered on a rotating basis every two years.

All Ph.D. students are also required to complete a minimum of 24 research credits. (See *Research Credits*.) To fulfill their required 24 research credits, students can also take summer research credits but should be sure not to go over 75 credits total during their graduate career. The graduate director will provide an Excel spreadsheet with a template to calculate the credits left towards the completion of the degree. **It is mandatory to fill out this template and keep updating it as you progress through the program. Send it to your advisor every year in the spring when you fill out your Independent Development Plan for Graduate Students (IDP) form.**

Table 1 Summary of the credit loads for CITE and HES

Credits/Program	**CITE**	**HES**
A. Total course credits required (core + optional + fs)	**36**	**30**
1. Core courses.	12	21
2. Optional approved courses + field statements:		
i. Optional courses	20	5
ii. Field statements (3+1)*	4	4
B. Minimum research credits required	24	24
C. Total mandatory credits (courses + research)	60	54
D. Additional courses or research credits needed to graduate	12	18
TOTAL CREDITS NEEDED TO GRADUATE	72	72

*Students are not required to sign up for field statement credits. They must complete all field statement requirements but are not required to register them for credits if they would like to allocate their credits differently.

In addition, students in the Ph.D. program are required to do the following:

1) Present their *work in progress* at a Colloquium during their second year (see *Second Year Colloquium*);

2) Take written qualifying exams in the form of two *field statements* (see *Field Statements*);

3) Submit a *dissertation proposal* to their committee, for oral examination, after the completion of 30 (HES) or 36 (CITE) course credits and approval of two field statements. Students are admitted into candidacy for the Ph.D., thereby achieving “ABD” (All But Dissertation) status, after successfully passing the defense of the dissertation proposal. This is also referred to as advancing to candidacy.;

4) Write a *dissertation* and defend it in a public forum for evaluation by their dissertation committee. If the dissertation is judged acceptable, and all other requirements have been fulfilled, the candidate is ready to submit the paperwork for a Ph.D. degree;

5) The award of the Ph.D. degree is contingent upon the fulfillment and timely submission of all required documentation to the Department of Anthropology, the School of Graduate Studies, and Rutgers University, as per their respective deadlines’ requirements. The paperwork shall include, but not be limited to, the submission of a physical or electronic copy of the dissertation to the Department of Anthropology and the School of Graduate Studies (SGS), the diligent completion of all the required forms, and any additional duties described in this handbook.

Although there is no formal *fieldwork requirement*, many anthropology students find fieldwork necessary for the Ph.D. There is no specific *language requirement*, but students are advised to learn languages that will be necessary for successful completion of their research.

M.A. Requirements:

Students who enter the graduate program at Rutgers may earn an M.A. in one of two ways, depending upon which degree they intend as their highest at Rutgers:

Ph.D. as terminal degree*:* In addition to the Ph.D. degree, students who enter through the Ph.D. program may earn an M.A. The students can apply for the M.A. degree after a successful dissertation defense (See the Graduate Program Administrator for the necessary forms.).

M.A. as terminal degree: Students who enter through the M.A. program or decide to leave the Ph.D. program with the M.A. as their terminal degree can earn their M.A. in the following ways:

1) Completing 30 credits of coursework (including required courses as per the chosen track) and two field statements. (This option is available only to students who were admitted into the Ph.D. program and who choose to take a terminal M.A.)

2) Completing 24 credits of course work (including required courses as per the chosen track), writing a six-credit thesis and passing an oral exam on the thesis administered by the members of the student's committee. Students opting for this track may not take more than one independent study in their 24 credits of coursework. They must also write and defend a thesis. *Students choosing this option are required to write a 2-3 page proposal that must be approved by all committee members prior to writing the thesis.*

3) Completing 30 credits of course work (including required courses as per the chosen track) and passing a written comprehensive examination given and evaluated by members of the student's committee. Comprehensive exams consist of five or six questions, of which the student is required to answer three within a three-hour period. Students opting for this track may not take more than two independent studies in their 30 credits of course work.

4) Students selecting option 3, above, who fail the written comprehensive exam will be offered the option to retake the exam on one single occasion, at a date and time to be agreed upon by the student and advisor, in consultation with the rest of the committee. If upon retaking the comprehensive exam the student fails for the second time, they will be dismissed from the program without a terminal degree.

Terminal M.A. students in Human Evolutionary Sciences must take *five* of the following core courses, which will be offered in a regular cycle: 16:070:561 Human Behavioral Ecology, 16:070:558 Evolution of the Hominidae, 16:070:568 Primate Ecology and Social Behavior, 16:070:508 Evolutionary Theory & Processes, 16:070:502 Proseminar in Anthropology II, and either 01:070:426 South African Archaeology or 16:070:585 Problems in Archaeology.

Terminal M.A. students in CITE must take *two* of the following core courses: 16:070:505 History of Anthropological Theory, 16:070:506 and 16:070:507 Anthropology, Theory, Ethnography; Research Design and Methods in Social/ Cultural Anthropology; 16:070:514 Language as Social Action.

M.A. committees must consist of at least three faculty members, of which at least two must be from the Graduate Faculty in Anthropology. A student's M.A. committee may include an outside faculty member, but this is not required. Students who earn a terminal M.A. may apply for admission to the Ph.D. program but are not guaranteed admission.

Course Descriptions

Course Descriptions

16:070:501 ***Proseminar in Anthropology I (3)***
Presentations in areas of current faculty research.

16:070:502 ***Proseminar in Anthropology II (3)***
Basic overview of the central concepts, theories, resources, and methods fundamental to cultural anthropology, human ecology, physical anthropology, and archaeology.

16:070:505 ***History of Anthropological Theory (3)***
Origin and development of anthropology; surveying the central ideas of major figures from the seventeenth century to the present.

16:070:506 ***Research Design and Methods in Social/Cultural Anthropology (3)***
Survey and critical evaluation of methods in current anthropology, using original research as data.

16:070:507 ***Psychological Anthropology (3)***
This course explores conceptions of subject, self and selfhood comparatively in anthropology, popular culture and psychoanalysis. The course may examine questions such as, How is a self formed? Under what conditions can a self change? What is the self's relationship to the person, the digital and the virtual.

16:070:508 ***Evolutionary Theory & Processes (3)***
Natural selection, adaption, evolutionary genetics, speciation, extinction, adaptive radiation, and macroevolution with special emphasis on human and non-human primate evolution.

16:070:509 ***Kinship in Nature and Culture (3)***
Examination of problems in social structure and organization with special reference to descent and alliance theory, kinship semantics and formal analysis, and evolution of social systems.

16:070:510 ***Personhood (3)***
This course seeks to do a historical and comparative exploration of the concept of personhood in anthropological approaches to culture. It is designed to offer a broad and historically grounded understanding of key anthropological debates about personhood, its social implications, and the relationship between the embodied self and collective identities. To illustrate some of the ways in which anthropologists have sought to understand concepts such as person, individual, embodiment, and self,w e will read from a variety of studies on how people in cross-cultural and different institutional contexts conceive of person and self.

16:070:511 ***Anthropology of Gender (3)***
Explore central anthropological debates such as universal male dominance, relationships among gender, sex, and sexuality; and articulation of gender with other forms of difference like race, class and nation.

16:070:513 ***Anthropology, Theory, Ethnography (3)***
This course interrogates the relationship between anthropology & it's signature method, ethnography, and broader social, cultural, and political theory. Students will be trained in how to recognize, critically assess, and curate theoretical genealogies for application in ethnographic writing and analysis.

16:070:514 ***Language as Social Action (3)***
Cultural implications of language and its use. Relations between language and culture, language and cognition, language and social group.

16:070:515 ***Theories of Agency (3)***
Explores theories of agency (agency understood as the socioculturally mediated capacity to act). Practice theory, language, gender, and resistance in relationship to agency.

16:070:516 ***Sexuality in a Cross-Cultural Perspective (3)***
Ethnographic issues in study of sexuality; major approaches; construction of sexuality, eroticism, and gender in wide range of cultures; relation of erotic culture to wider social order, history.

16:070:517 ***Anthropology of Violence (3)***
Explores cultural, structural, socioeconomic, and ethnohistorical dimensions of different types of violence (political violence, terrorism, war, and genocide) in a variety of local contexts.

16:070:518 ***Power, State, Nation (3)***
Explores theories of power, states and state formation, governance and governmentality, nations and nationalism, with implications for the ethnographic study of both dominant and subordinate social groups and classes.

16:070:519 ***Anthropology of Politics (3)***
Explore approaches to power and politics in anthropology, with attention to contemporary as well as classic or 'foundation' works. Conceptualizations of the state, violence, citizenship, sovereignty, ideology, civil society, national and ethnic identity, resistance, modernity, empire, social movements, and public anthropology.

16:070:520 ***Analysis of State Systems (3)***
The anthropological approach to the analysis of nation-states with special reference to boundary mechanisms, value systems, and the political control of everyday activities.

16:070:521 ***Anthropology of Industrial Society (3)***
Effects of the industrial system on kinship behavior, socialization of the young, the use of time, ethnicity and kinship interests, and "alienation." Limited, focused research project by the student.

16:070:522 ***Anthropology of Religion (3)***
Religion in the known cultures of the world, with special attention to ritual and myth. Detailed examination of particular ethnographic sources. The link between religious universals and theories of human nature.

16:070:523 ***Culture and Desire (3)***
Exploration of desire in social, political, and economic relations between dominant and oppressed groups in colonial/postcolonial worlds of 19th to the 21st centuries, emphasizing contemporary discourses of desire as explanatory anthropological models.

16:070:524,525 ***World Ethnographic Areas I, II (3)***
Study of selected ethnographic areas such as Africa, Southeast Asia, India, or North America; cross-cultural analysis within an area. General theoretical and methodological issues as well as those unique to the particular area.

16:070:526 ***Urban Ethnography (3)***
Classic and contemporary urban ethnographies of the United States and elsewhere. Urban methods, construction of the "the field," and epistemological concerns. Modernity and global cities. Space, race, and class. Representations of urbanism.

16:070:527 ***The Ethnology of Inequality: Race, Class and Ethnicity (3)***
Survey of anthropological literature on the relationships among race, class, and ethnicity. Ethnographic methods and the comparative approach to the study of hegemony, resistance, and conflict among groups defined as "racial" or "ethnic.

16:070:528 ***Explanation in Anthropology (3)***
Analysis of modes of explanation used in anthropological studies, with consideration of such issues as holism versus individualism; essentialism versus nominalism; action explanations and other explanations; generalization and particularism; and the problem of other cultures and other periods.

16:070:529 ***Racialization, Immigration, and the Politics of Citizenship (3)***
Relationship of citizenship to processes of racial formation in modern nation states. Topics include national histories of citizenship; (im)migration and globalization; regimes of difference; citizen subjects; education; patriotism; multiculturalism; language politics.

16:070:530 ***Problems in Social Anthropology (3)***
For graduate students wishing to pursue advanced work supplementary to that provided for in formal courses. Program of reading and conferences arranged by the professor in charge.

16:070:531 ***Problems in Comparative Analysis (3)***
For graduate students wishing to pursue advanced work in areas not provided for in formal courses. Conferences, reading, and empirical work arranged in consultation with the professor in charge.

16:070:532 ***Problems in Ethnography (3)***
For graduate students wishing to pursue advanced work in areas not provided for in formal courses. Conferences, reading, and empirical work arranged in consultation with the professor in charge.

16:070:537 ***Anthropology of Human Rights (3)***
An anthropological perspective on human rights that examines the origins and politics of human rights, conflicts between culture and rights, and local manifestations of the global discourse.

16:070:538 ***Phenomenologies of Capitalism (3)***
Sensory, aesthetic, emotional, embodied experiences of capitalism and their relationship to ideological and political processes and objectives; capitalism as material culture; objects, desire, memory; capitalism as “dreamworld,” disenchanted, spectacle; phenomenological anthropology.

16:070:540 ***Theorizing and Writing Ethnography (3)***
Critical theory and critical ethnography. Philosophical, epistemological, theoretical, and rhetorical dimensions of cultural description. Ethnography as rhetoric, genre, text, and narrative. Experiments with creative and innovative ethnographic writing.

16:070:542 ***Environmental Anthropology (3)***
Political ecology, political economy, and environmental history used to examine an understudied space: the hinterlands of states, cities, industries, and empires.

16:070:543 ***Ecological Anthropology (3)***
The ecological approach in anthropology. Consideration of theory, method, and data analysis in ecological studies.

16:070:544 ***Environmental Anthropology in a Changing World (3)***
Methods for the analysis of current socioeconomic, health, and environmental problems involving interactions between people and their environment.

16:070:545 ***Anthropology of Development (3)***
Review anthropological theories and ethnographies of development and social change in Global South and Global North. Explore such issues as modernity, progress, marginality, inequality, poverty and prosperity.

16:070:546 ***Medical Anthropology (3)***
Examination of sociocultural factors influencing health and illness, and the impact of social and cultural change on disease patterns and health-care systems. Includes ethnographic studies of systems of illness causation, prevention, diagnosis, and treatment.

16:070:547 ***Globalization and Neoliberallism (3)***
Cultural, political, economic, and historical dimensions of globalization. Rise of neoliberalism; debates about alternatives; social movements. Transformations in media, governance, capital, subjectivities, consumption, gender relations, biotechnology.

16:070:548 ***Cultural Politics of Transnationalism and Diaspora (3)***
Theories of transnational cultural politics. Colonialism, nationalism and postcoloniality. Traveling culture, commodities, media and consumptions. Mobilities, migration, diaspora and translocality. Race gender sexuality. Ethnographic, textual and political economic analyses.

16:070:549 ***Culture and Capitalism 16:070:550 Economic Anthropology (3)***
Explores historical and contemporary efforts to analyze the relationship between culture and capitalism. Relevant theories and critical readings of current ethnographies. Topics include commoditization, modernity, colonialism, postcoloniality, production and reproduction, and social differences.

16:070:551 ***Maritime Anthropology (3)***
An advanced course in sociocultural, economic, and ecological anthropology focused on the study of fishing and other maritime communities and problems concerning human relationships to natural resources. Prerequisite: Course in anthropological theory.

16:070:552 ***Seminar in Ecological Anthropology (3)***
Interrelations of ecological and socioeconomic changes as an interdisciplinary problem area.

16:070:553 ***Problems in Human Ecology I (3)***
For graduate students wishing to pursue advanced work in areas not provided for in formal courses. Conferences, reading, and laboratory work arranged in consultation with the professor in charge.

16:070:554 ***Problems in Human Ecology II (3)***
For graduate students wishing to pursue advanced work in areas not provided for in formal courses. Conferences, reading, and laboratory work arranged in consultation with the professor in charge.

16:070:558 ***Evolution of the Hominidae (3)***
The fossil Old World higher primates; the Miocene fossil apes; problems of when, where, and why hominids first appeared; the australopithecines of Plio/Pleistocene Africa; early genus *Homo*; *Homo erectus*; Neanderthals; the appearance of anatomically modern human; Paleolithic cultures.

16:070:559 ***Evolution of Behavior (3)***
Consideration of human and primate behavior from an evolutionary perspective. Topics include aggression, territorial behavior, sexuality and mating systems, socialization, and sex roles in primate society.

16:070:560 ***Natural Selection and Social Theory (3)***
Recent papers on key topics in social evolution, such as female choice, symmetry, parasites, virulence, kinship, homosexuality, reciprocal altruism, and self-deception. Special emphasis on human data.

16:070:561 ***Human Behavioral Ecology (3)***
Review of major issues and recent research in behavioral ecology and related approaches to human behavior.

16:070:563 ***The Biology of Social Bonds (3)***
The dynamics of basic social bonds, such as the mother-child bond, the mating bond, the bond between older and younger males, and the sibling bond, analyzed in terms of their evolution and of their adaptive significance for micro and macro social structures.

16:070:564 ***Problems in the Biology of Social Relations (3)***
The place of biology in the social sciences, relevance of the comparative sociology of animal societies; the phylogeny of behavior; special problems of aggression, territory, sexual and parental relationships, and language.

16:070:565 ***Human Osteology Laboratory (3)***

16:070:566 ***Human Osteology (3)***
Examination of primate morphology, with emphasis on the evolution of human morphological adaptations.

16:070:567 ***Human Variation (3)***
Variation in body size, shape. Structural morphology, pigmentation, and biochemistry among living humans; climatic adaptation, disease, and human evolution; population origins through migration or local continuity through evolutionary time.

16:070:568 ***Primate Ecology and Social Behavior (3)***
Behavior of the nonhuman primates, emphasizing the relationship between ecology and social organization; the structure of social groups; and the development of behavior.

16:070:569 ***Sexual Differences and Sexual Selection in Primates (3)***
Methods, findings, theoretical developments of sexual selection studies in primates. Evolution of sex differences in behavior, sexuality, and morphology. Focus on primates in the comparative framework of studies of other organisms.

16:070:570 ***Hominid Taxonomy and Systematics (3)***
Implications of the existence of sympatric species; limits to similarity imposed by the coexistence of competing species; controversies surrounding the establishment of taxa; phylogenetic reconstructions.

16:070:571 ***Primate Evolution and Radiations (3)***
Exploration of primate history in terms of evolutionary radiations. Emphasis on entrance to and radiation within new adaptive zones and the change of these zones through time, using morphological and paleoecological information.

16:070:572 ***Biology of Human Behavior (3)***
Current uses and philosophical-historical bases of biological explanations of human behavior in social sciences. Role of animal behavior, cross-cultural, and genetic-neuro-hormonal data in the analysis of human social behavior.

16:070:573 ***Problems in Biological Anthropology (3)***
For graduate students wishing to pursue advanced work in areas not provided for in formal courses. Conferences, reading, and laboratory work arranged in consultation with the professor in charge.

16:070:574 ***Methods in Field Primatology (3)***
Current techniques for quantifying and sampling behavior in the field; specialized subjects include: habitat description, phenology, audio recording, experimental design (playbacks), capture/immobilization, hormonal and DNA sampling, GPS/GIS, equipment.

16:070:578 ***Old World Prehistory (3)***
Key data and current interpretive models concerning the archaeology of hominid adaptations from earliest times through the Neolithic in the Old World.

16:070:579 ***Archaeological Sciences (3)***
This course highlights the importance of Natural Sciences in current archaeological research. This course aims to explain how archaeological remains are recovered and analyzed using an interdisciplinary approach, the principles of the analytical techniques used, how to calculate the uncertainty of results and predictions, which experiments can be set to further understand the archaeological record, and how to integrate different lines of evidence to support a scientific argument.

16:070:580 ***Research Methods and Theory in Archaeology (3)***
Conceptual basis and assumptions used in the formulation of research designs and the interpretation of research results; examination of fieldwork problems and techniques, with emphasis on the problems of observation, use of documentary sources, surveying and excavation, and use of quantitative data.

16:070:582 ***Paleoecology and Archaeology (3)***
Methods of environmental reconstruction. Emphasis on the evolution of subsistence economies, with special attention to the origins of animal and plant domestication.

16:070:585,586 *Problems in Archaeology (3)*
For graduate students wishing to pursue advanced work in areas not provided for in formal courses. Conferences, reading, and laboratory work arranged in consultation with the professor in charge.

16:070:587 *Field Study in Archaeology*
Supervised participation in fieldwork with instruction in excavation methods and practices. Personnel and field project location vary from year to year. (3 credits) Minimum of 6 to 10 weeks at field location. Course may be repeated with permission of program director.

16:070:595 *Gross Anatomy*
Human anatomy at the macroscopic level focuses on the peripheral nervous, musculoskeletal, cardiopulmonary and gastrointestinal systems. Cadaver dissections including the back and spinal cord, upper limb, thorax, and abdomen. This course allows Anthropology Ph.D. students to be trained appropriately in gross anatomy, which is critical training for evolutionary or biological anthropology Ph.D.s.

16:070:600 *Field Statement (3)*
For graduate students preparing a field statement. May be taken twice.

16:070:601 *Field Statement (3)*
For graduate students preparing a field statement. May be taken once.

16:070:602 *Field Statement (3)*
The intellectual history and philosophy of social science; exploration of the origins of the social and behavioral sciences in the western humanistic tradition.

16:070:603,604,605 *Topics in Cultural Anthropology (3)*

16:070:626 *Visual Anthropology (3)*
Study, use, and production of anthropological and ethnographic photographs, films, and videos for research and communication; study of human behavior through visual media.

16:070:606,607,608 *Topics in Evolutionary Anthropology (3)*

16:070:701,702 *Research in Anthropology (BA, BA)*

Anthropology 070 (SGS-ANTHRO)

Admission Deadlines

Admission Deadlines

For best consideration apply by these dates

APPLICATION TYPE	US APPLICANTS	NON-US APPLICANTS	MERIT-BASED AID
Ph.D.	December 15	December 15	December 15
M.S.	December 15	December 15	
M.A.	December 15	December 15	

Anthropology 070 (SGS-ANTHRO)

List of Courses

List of Courses

16:070:501 Proseminar in Anthropology I

16:070:502 Proseminar in Anthropology II

16:070:505 History of Anthropological Theory

16:070:506 Research Design and Methods in Social/Cultural Anthropology

16:070:507 Psychological Anthropology

16:070:508 Evolutionary Theory & Processes

16:070:509 Kinship in Nature and Culture

16:070:510 Personhood

16:070:511 Anthropology of Gender

16:070:513 Anthropology, Theory, Ethnography

16:070:514 Language as Social Action

16:070:515 Theories of Agency

16:070:516 Sexuality in a Cross-Cultural Perspective

16:070:517 Anthropology of Violence

16:070:518 Power, State, Nation

16:070:519 Anthropology of Politics

16:070:520 Analysis of State Systems

16:070:521 Anthropology of Industrial Society

16:070:522 Anthropology of Religion

16:070:523 Culture and Desire

16:070:524,525 World Ethnographic Areas I, II

16:070:526 Urban Ethnography

16:070:527 The Ethnology of Inequality: Race, Class and Ethnicity

16:070:528 Explanation in Anthropology

16:070:529 Racialization, Immigration, and the Politics of Citizenship

16:070:530 Problems in Social Anthropology

16:070:531 Problems in Comparative Analysis

16:070:532 Problems in Ethnography

16:070:537 Anthropology of Human Rights

16:070:538 Phenomenologies of Capitalism

16:070:540 Theorizing and Writing Ethnography

16:070:541 Anthropology and Cultural Studies

16:070:542 Environmental Anthropology

16:070:543 Ecological Anthropology

16:070:544 Environmental Anthropology in a Changing World

16:070:545 Anthropology of Development

16:070:546 Medical Anthropology

16:070:547 Globalization and Neoliberallism

16:070:548 Cultural Politics of Transnationalism and Diaspora

16:070:549 Culture and Capitalism 16:070:550 Economic Anthropology

16:070:551 Maritime Anthropology

16:070:552 Seminar in Ecological Anthropology

16:070:553 Problems in Human Ecology I

16:070:554 Problems in Human Ecology II

16:070:558 Evolution of the Hominidae

16:070:559 Evolution of Behavior

16:070:560 Natural Selection and Social Theory

16:070:561 Human Behavioral Ecology

16:070:563 The Biology of Social Bonds

16:070:564 Problems in the Biology of Social Relations

16:070:565 Human Osteology Laboratory

16:070:566 Human Osteology

16:070:567 Human Variation

16:070:568 Primate Ecology and Social Behavior

16:070:569 Sexual Differences and Sexual Selection in Primates

16:070:570 Hominid Taxonomy and Systematics

16:070:571 Primate Evolution and Radiations

16:070:572 Biology of Human Behavior

16:070:573 Problems in Biological Anthropology

16:070:574 Methods in Field Primatology

16:070:578 Old World Prehistory

16:070:579 Archaeological Sciences

16:070:580 Research Methods and Theory in Archaeology

16:070:582 Paleoecology and Archaeology

16:070:585,586 Problems in Archaeology

16:070:587 Field Study in Archaeology

16:070:595 Gross Anatomy

16:070:600 Field Statement

16:070:601 Field Statement

16:070:602 Field Statement

16:070:603,604,605 Topics in Cultural Anthropology

16:070:626 Visual Anthropology

16:070:606,607,608 Topics in Evolutionary Anthropology

16:070:701,702 Research in Anthropology (BA, BA)

Art History 082 (SGS-AH)

ART HISTORY 082

Degree Programs Offered: M.A., Ph.D., Graduate Certificate

Please visit the Art History website.

Program Description

The goal of the graduate programs in Art History at Rutgers is to impart rigorous training for innovative research to the next generation of scholars, curators, cultural heritage practitioners, and art world professionals. The program puts a strong emphasis on cross- disciplinary inquiry and encourages students to explore connections between research and practice, and between scholarly writing and public-facing advocacy. Students in the program have been highly successful in garnering prestigious grants and awards from such institutions as Fulbright, Kress, Mellon, DAAD and the Smithsonian, and alumni have gone on to build successful careers as university faculty and museum curators and directors, both in the NYC metropolitan area and at cultural centers throughout the world.

Prospective students for the M.A. programs are strongly advised to contact the Graduate Program Director to determine the suitability of the program before applying. Prospective students for the Ph.D. program are encouraged to reach out to faculty members in their proposed area of research who might serve as prospective advisers. Prospective students for Cultural Heritage and Preservation Studies are encouraged to reach out to the director of CHAPS.

Campus Locations

College Ave Campus - New Brunswick

Faculty

Anita Bakshi, Ph.D., Cambridge

Jessey Choo, Ph.D., Princeton

Serena Connolly, Ph.D., Yale

Jenevieve DeLosSantos, Ph.D., Rutgers

Zeynep Gursel, Ph.D., California (Berkeley)

Cynthia Jacob, Ph.D., Rutgers

Jinah Kim, Ph.D., California (Berkeley)

Christina Knight, B.A., Stanford; A.M., Ph.D., Harvard

Lucas Lixinski, Ph.D., European University Institute

Carol McCarty

Ricardo Montez

Bice Peruzzi, Ph.D., Cincinnati

Maura Reilly, Ph.D., New York University

Trinidad Rico, Ph.D., Stanford

Tamara Sears, Ph.D., Pennsylvania

Alex Seggerman, Ph.D., Yale

Susan Sidlauskas, Ph. D., Pennsylvania

Julia Tulovsky, Ph.D., Moscow

Deniz Turker Cerda, Ph.D., Harvard

Andrew Urban, Ph.D., Minnesota

Haruko Wakabayashi, Ph.D., Princeton

Amber Wiley, Ph.D., George Washington

Carla Yanni, Ph.D., Pennsylvania

Art History 082 (SGS-AH)

M.A. Curatorial Studies Track

M.A. Curatorial Studies Track

Overview

The Curatorial Studies track offers a curriculum designed for students who wish to be involved with visual arts as a profession beyond academia and is applicable to a number of careers in the visual arts, including at museums, galleries, non-profits, and the private sector. Curatorial Studies differs from Art History in that it emphasizes hands-on training, ethical concerns, the history and practice of collecting and display, audience engagement, and the real-world issues that impact art institutions.

Credit Distribution

The M.A. degree requires the successful completion of 30 credits distributed in the following fashion.

- Eight Semester Courses (24 credits)
- Two semesters of Research Credits for the Master's Thesis (6 credits)

Coursework Requirements

All students pursuing the Curatorial Studies track are required to take the following three core courses:

- 16.082.563 Curatorial Training Seminar
- 16.082.698 Exhibition Seminar
- 16.082.688 Topics in Contemporaneity

In addition, candidates for the degree must complete five (5) electives, which can consist of any upper-level Art History or CHAPS courses, including credit-bearing internships. Students are also encouraged to explore interdisciplinary options in consultation with the Director of Curatorial Studies. 300 and 400 level courses can be taken for graduate credit. When registering for 300 and 400 level courses, students should be sure to use the "G" prefix when registering for the course.

All electives taken outside of the department must be approved by the Graduate Program Director.

Full-time students should aim to complete the core requirements in their first year if possible, or no later than the fall semester of their second year. During their second year, they should also enroll in 6 credits of Research in Art History. The recommended distribution of courses for full time students is as follows:

- **First Year, Fall semester:** 3 courses
- **First Year, Spring semester:** 3 courses
- **Second Year, Fall semester:** 1-2 courses + 3 credits of Research in Art History (16:082:701 for fall)
- **Second Year, Spring semester**: 1-2 courses +3 credits of Research in Art History (16:082:702 for spring)

Students pursuing the degree part-time should consult with the GPD to formulate a schedule for their course of study.

Internship Information

With permission from the GPD, students can complete an internship for course credit. In order for it to count for credit, the following is required. The internship should have the equivalent of 80 contact hours. Upon the successful completion of an internship, students should request a letter from the host institution to be sent directly via email to the GPD by the last day of classes in the semester. The letter must speak to the work and projects the student did during the internship in addition to other information related to their work during the internship, including the number of internship hours. In addition, students must submit a 2-page Internship Report to the GPD by the last of classes in that semester. The internship report should consist of the following:

1. Description of the nature of the internship, work and tasks done for the internship.
2. The level and quality interaction with professionals and staff members.
3. Their evaluation of the way in which the internship related to their particular area of interest and goals in the program.

Capstone Requirement

All students in the Curatorial Studies M.A. track are required to complete an M.A. thesis. Options for the thesis are varied and may include a written text, a thesis exhibition, or a detailed exhibition proposal. They are expected to work independently, scheduling regular meetings with their faculty adviser. All students are required to present their work in a departmental event in the spring and deposit their final approved thesis to the department by a designated date.

Approval of Thesis Topic and Proposal

At the beginning of the Fall semester of their second year, students should arrange to meet with the Graduate Program Director to discuss possible thesis topics. Students should recruit a primary MA thesis advisor, with whom they should develop a topic, ideally no later than October 1. Advisors eligible to serve as primary thesis advisors must be either full-time members of the Art History Department at Rutgers or an Associate Member of the Graduate Faculty (listed on the website). In consultation with their primary thesis adviser, students should develop a proposal. The proposal should be formally approved and submitted to the Graduate Program director by November 1. Students must submit their approved proposal, along with the signed Thesis Proposal form to the Graduate Program Director by a designated deadline. The topic and adviser are approved only when a faculty member signs the form.

Second Reader:

The thesis advisor should suggest a potential second reader, who should be a full-time Art History faculty, full-time Rutgers University faculty (any department) or an Affiliate or Associate Member of the Graduate Faculty. It is up to each student to approach this individual or individuals to fulfill this role. The second reader is not an advisor; they are only required to review and comment on the work during the writing process. A second reader should be selected no later than February 15 of the final semester of the student's degree program, and the candidacy form should be submitted to the program coordinator so that it is ready to be signed by the April 1 deadline set by SGS. The name should be submitted to the GPD and department program coordinator and added to the thesis approval form.

Additional Committee Members and Filing Signatures:

As per SGS rules, committees for Master's degree candidates require three Members, Associate Members or Affiliate Members of the program's graduate faculty. Two of those members should be the primary and secondary reader for the thesis/ capstone project. In the event that a third committee member is needed, the Graduate Program Director should serve as an *ex officio* third member and provide signatures for sections A and C of the candidacy form. In such cases, the Department Chair (DC) stands in for the Graduate Program Director (GPD) in certifying the form in section E. In the event that the DC or GPD is already one of the two primary readers, the Undergraduate Director can provide a signature to certify the form in section E.

Filing for the Degree

Please make sure to double-check all paperwork requirements for filing for a May degree. The deadlines for the submission of paperwork and the uploading of the MA thesis to Rutgers library. Instructions for filing can be found on the School of Graduate Studies (SGS) website. They are typically October 1 for an October degree, January 2 for a January degree, and April 1 for a May degree.

The candidacy form should be submitted to the department program coordinator no later than February 15. Please fill in all of Part I. In Part II, please fill in the title of your thesis in Section A. You will require three signatures for Sections A and C. Two of the three signatories should include your readers. The third should be listed as the current GPD. In the event that the GPD is one of the two readers already, then the third signatory should be the current department chair. In the event that both the GPD and department chair are readers, the chair should approach a third person in the department to serve in this capacity, to attest to the successful completion of the thesis and associated requirements.

Advising

Initially the Graduate Program Director serves as academic adviser for all students pursuing the M.A. track in Curatorial Studies. Once a thesis advisor is selected, they may take over as the primary adviser. Students should arrange appointments with both the GPD and their primary advisers to discuss their course of study and ensure that they are on track to graduate as scheduled. Please use the course-planning form to track your progress.

Art History 082 (SGS-AH)

M.A. Art History Track

M.A. Art History Track

Overview

The M.A. in art history affords students the opportunity to pursue higher training that can prepare them for applying to Ph.D. programs. It can serve as a bridge program for students who show exceptional promise but do not have the requisite background or research experience to apply directly to a Ph.D. program. The program at Rutgers is targeted towards students who have a compelling reason to study with specific faculty members in the department, and potential applicants are encouraged to contact faculty members in the department to ensure that the program would serve their needs and interests.

Credit Distribution

The M.A. degree requires the successful completion of 30 credits, distributed in the following fashion.

- Eight Semester Courses (24 credits)
- Two semesters of Research Credits for the Master's Thesis (6 credits)

Coursework Requirements

The coursework requirements for pursuing the Art History track are as follows:

- Approaches to Art History (16.082.506)
- Seven Electives, four of which must be at the 500 level or higher

All electives must be taken within Art History, CHAPS, or Curatorial Studies, unless otherwise approved by the Graduate Program director.

All electives taken outside of the department must be approved by the Graduate Program Director.

300 and 400 level courses can be taken for graduate credit. When registering for 300 and 400 level courses, students should be sure to use the "G" prefix when registering for the course.

Full-time students should aim to complete the 16.082.506 Approaches to Art History requirement in their first year if possible. They should also complete five of the seven required electives. During their second year, they should also enroll in 6 credits of Research in Art History. The recommended distribution of courses for full time students is as follows:

- **First Year, Fall semester:** 3 courses, one of which should be Approaches to Art History (16.082.506
- **First Year, Spring semester:** 3 courses
- **Second Year, Fall semester:** 1-2 courses + 3 credits of Research in Art History (16:082:701 for fall)
- **Second Year, Spring semester**: 1-2 courses +3 credits of Research in Art History (16:082:702 for spring)

Students pursuing the degree part-time should consult with the GPD to formulate a schedule for their course of study.

Capstone Requirement

All students pursuing an M.A. in Art History are required to complete an M.A. thesis. Options for the thesis are varied and may include a written text, a thesis exhibition, or a detailed exhibition proposal. They are expected to work independently, scheduling regular meetings with their faculty adviser. All students are required to present their work in a departmental event in the spring and deposit their final approved thesis to the department by a designated date.

Members or Associate members may chair the committee. Affiliate members can serve but not chair the committee. The committee typically consists of the two main readers.

Approval of Thesis Topic and Proposal:

At the beginning of the Fall semester of their second year, students should arrange to meet with the Graduate Program Director to discuss possible thesis topics. Students should recruit a primary MA thesis advisor, with whom they should develop a topic, ideally no later than October 1. Advisors eligible to serve as primary thesis advisors must be either full-time members of the Art History Department at Rutgers or an Associate Member of the Graduate Faculty (listed on the website). In consultation with their primary thesis adviser, students should develop a proposal. The proposal should be formally approved and submitted to the Graduate Program director by November 1. Students must submit their approved proposal, along with the signed Thesis Proposal form to the Graduate Program Director by a designated deadline. The topic and adviser are approved only when a faculty member signs the form.

Second Reader:

The thesis advisor should suggest a potential second reader, who should be a full-time Art History faculty, full-time Rutgers University faculty (any department) or an Affiliate or Associate Member of the Graduate Faculty. It is up to each student to approach this individual or individuals to fulfill this role. The second reader is not an advisor; they are only required to review and comment on the work during the writing process. A second reader should be selected no later than February 15 of the final semester of the student's degree program, and the candidacy form should be submitted to the program coordinator so that it is ready to be signed by the April 1 deadline set by SGS. The name should be submitted to the GPD and department program coordinator and added to the thesis approval form.

Additional Committee Members and Filing Signatures:

As per SGS rules, committees for Master's degree candidates require three Members, Associate Members or Affiliate Members of the program's graduate faculty. Two of those members should be the primary and secondary reader for the thesis/ capstone project. In the event that a third committee member is needed, the Graduate Program Director should serve as an *ex officio* third member and provide signatures for sections A and C of the candidacy form. In such cases, the Department Chair (DC) stands in for the Graduate Program Director (GPD) in certifying the form in section E. In the event that the DC or GPD is already one of the two primary readers, the Undergraduate Director can provide a signature to certify the form in section E.

Filing for the Degree:

Please make sure to double-check all paperwork requirements for filing for a May degree. The deadlines for the submission of paperwork and the uploading of the MA thesis to Rutgers library. Instructions for filing can be found on the School of Graduate Studies (SGS) website. They are typically October 1 for an October degree, January 2 for a January degree, and April 1 for a May degree.

The candidacy form should be submitted to the department program coordinator no later than February 15. Please fill in all of Part I. In Part II, please fill in the title of your thesis in Section A. You will require three signatures for Sections A and C. Two of the three signatories should include your readers. The third should be listed as the current GPD. In the event that the GPD is one of the two readers already, then the third signatory should be the current department chair. In the event that both the GPD and department chair are readers, the chair should approach a third person in the department to serve in this capacity, to attest to the successful completion of the thesis and associated requirements.

Advising:

Initially the Graduate Program Director serves as academic adviser for all students pursuing the M.A. track. Once a thesis advisor is selected, they may take over as the primary adviser. Students should arrange appointments with both the GPD and their primary advisers to discuss their course of study and ensure that they are on track to graduate as scheduled. Please use the course-planning form to track your progress.

Art History 082 (SGS-AH)

Ph.D. Degree Requirements

Ph.D. Degree Requirements

The Ph.D. degree is granted upon the successful completion of 72 credits, The credits should be distributed as follows.

- 48 credits of coursework, typically broken down as follows
    - 36 credits of semester courses (12 courses total), one of which must be the mandatory first-year graduate-level Approaches to Art History (16:082:506) [Please note that 300 and 400 level courses can be taken for graduate credit. These should be approved by the adviser and/or the GPD. When registering for 300 and 400 level courses, students should be sure to use the "G" prefix when registering for the course.]
    - 6 credits of study for Qualifying exam
    - 6 credits for Dissertation Proposal Preparation
- 24 Research Credits, taken after official advancement to candidacy (ABD status)
- Demonstration of proficiency in two second languages

Credit Distribution for students entering with an MA:

Students entering the program with an MA can shorten the length of time to degree by transferring credits from earlier graduate programs. The Graduate School permits the transfer of a maximum of twenty-four (24) credits from other institutions toward the Ph.D., all of which must be in art history and at the graduate level, with a grade of B or better. Students can transfer credits after the completion of four courses (12 credits) at Rutgers by filing the Transfer of Credit Application, found as a pdf on the SGS website, with all requisite materials. Please note that the Graduate School does not offer transfer credit for independent study or for thesis research and writing earned at another institution.

At Rutgers 1 term course = 3.0 credits. If the credits are being transferred from an institution that uses a different system of tabulation for calculating course credits, please be sure to include proof of equivalency with the application to ensure that the proper number of credits are approved.

If a total of 24 credits is transferred, the distribution of courses is typically adjusted as follows. [Please note that the number of semester courses and transfer credits may be adjusted, but the total number of coursework credits should not exceed 48.]

- 48 credits of coursework, typically broken down as follows
    - 18 credits of semester courses (6 courses total), one of which must be the mandatory first-year graduate-level Approaches to Art History (16:082:506)
    - 24 credits tranferred from the M.A.
    - 3 credits of study for Qualifying exam
    - 3 credits for Dissertation Proposal Preparation
    - 24 Research Credits, taken after official advancement to candidacy (ABD status)
- Demonstration of proficiency in two second languages

Art History 082 (SGS-AH)

Course Descriptions

Course Descriptions

01:082:106 ***Introduction to Art History: 1400 to the Present (3)***
Survey of the major monuments and trends in the history of painting, sculpture, and architecture across the globe from 1400 to the present.

01:082:204 ***Art and Power: The Visual and Literary Culture of the Soviet Century (3)***
This course will examine the interaction of art and politics in Soviet culture, focusing on specific artworks (visual and literary) and writings about them. It considers how creative interests in representing a particular social or political ideology are realized, and to what degree notions of artistic autonomy might conflict with appeals to the public and/or state authority.
Less a survey of Soviet art and literature than a cross-disciplinary inquiry, our course is structured around a series of themes addressing the interpretation, public promotion, and reception of art in the Soviet single Party state. Over the course of the semester, we will encounter a wide cross-section of both mainstream and underground Soviet works of art– including sculptures, paintings, film, and literature, as well as theoretical writings about art, such as manifestos and critical interpretations. We will see how Soviet Culture–often called "totalitarian"–provided a model for the interdependence of art and politics, the consequences of which resonate even today. Although the course focuses primarily on Russia, lectures also are devoted to art in the Caucasus (Georgia), the Baltics, and Central Asia.

01: 082:205 ***Introduction to Asian Art (3)***
Moving chronologically and thematically, this course surveys the history of art across Asia, with particular emphasis on India, China, and Japan, and with limited forays into Korea, Cambodia, and Indonesia. Each week's lectures highlight key moments in Asia's visual history, beginning with the earliest civilizations of the bronze age and moving through to the politics of globalizing art worlds in the present day. A strong emphasis will be placed on parallel developments, on important cultural connections, and on moments of cultural contact through pilgrimage, travel, and trade.
Topics to be considered include urbanism, architecture and the built environment, sculpture in various media, decorative arts, ceramics, illustrated manuscripts, scrolls and painting; portraiture; theology and ritual arts;

colonialism and globalization; and contemporary arts and artistic revivals.
This course is intended as an introductory survey, accessible to both majors and non-majors, and no background in either art history or Asian studies is necessary for its successful completion.

01:082:230 ***Latinx Art (3)***
Latinx Art refers to the artistic production of Latinas and Latinos in the diaspora. This course will examine the visual arts created by diaspora communities across the continental United States, from the second half of the twentieth century into the present. As this is an emerging field of inquiry within Art History, many of the readings will be drawn from cultural studies and literature, giving the course a strong interdisciplinary component.
The material follows a thematic structure driven by critical issues, specific communities, and artistic genres. It emphasizes themes pertaining to the immigrant experience, including identity formation, visibility, community, marginalization, and isolation. Race, gender, and sexuality are topics that are embedded over the entire semester and also treated within discrete units. The course addresses communities with a multigenerational presence in this country, such as Mexican-Americans, Central Americans, Puerto Ricans, Dominicans, and Haitians, as well as newer arrivals. It treats works of art in multiple media, from painting and sculpture to installation, performance, and social practice.
No prior coursework in Art History or Latino Studies is required. Lectures by at least one visual artist and a field trip to an exhibition will be planned.

01:082:276 ***Radical Modernism and Anti-Art (3)***
This interdisciplinary course introduces students to the European avant-garde movements at the beginning of the 20th century. We will consider innovations in art, music, film, and literature, beginning with German Expressionism, followed by Italian Futurism, the international Dada movement, and French Surrealism. We will look at the various ways in which these movements discover the irrational, the pathological, the unconscious, the precarious and the abandoned as revolutionary and subversive gesture with the utopian potential of changing the world. We will explore what binds and what separates these movements from each other. And we will trace the influences on European avant-gardes

01:082:291 ***Topics in Art History (3)***
Various Topics in Art History: To be determined by instructor

01:082:328 ***Modern Islamic Art and Architecture (3)***
Modern Islamic Art and Architecture (3) Modern and contemporary histories of visual culture including architecture, painting, sculpture, photography, and cinema in the Islamic world. Special focus on the Arabic, Turkish, and Persian spheres

01:082:332 ***African American Art (3)***
This course surveys the work of African American artists, from the nineteenth century to the present. We will use the artwork as a means of understanding the lived experiences of black Americans – that is Americans of African descent, whose origins are from across the diaspora

01:082:366 ***Spanish Painting (3)***
This course explores art in the Hispanic world from the reign of Isabella and Ferdinand in the early Renaissance to the career of Goya in the Romantic era. Our focus is on major artists (El Greco, Velázquez, Goya), art in Madrid, and other centers (Toledo, Seville), and artistic transmission and exchange among Spain, its overseas dominions, and

Northern Europe and Italy. We will analyze sacred and secular imagery in painting and sculpture, and discuss such themes as art and faith, the Spanish Inquisition, Purity of Blood, the status of the artist, Spanish imperialism, and encounters with the indigenous peoples of Latin America.

01:082:373 ***Early Medieval Art (3)***
Art of western Europe from Constantine to ca. AD 1000, with emphasis on transformation of the classical image of physical man to the medieval image of spiritual man.

01:082:383 ***Twentieth-Century Photography (3)***
Overview of the social, cultural, and art history of photography from 1900-2000

01:082:391 ***Nineteenth Century Architecture and Society in the United States (3)***
This course offers an overview of the social and intellectual history of architecture in the United States from about 1750 to 1900. Role of architecture in societal transformations (the development of nationhood, industrialization. and urbanization). Emphasis on the invention of new building types, including universities, government buildings, prisons, hospitals, railroad stations, and the architecture of World's Fairs.
This course is an overview of the social, cultural, political, and intellectual history of architecture in the United States from c. 1750 to 1900. We examine the role of architecture in societal transformations (from colonial settlements, to the development of nationhood, industrialization, and urbanization). Special emphasis on the creation of community, the relationship between geography and topography to the development of the built environment, and the various influences of institutions such as religion, slavery, government, and capitalism on design. We will use architecture and urbanism as a means of understanding the lived experiences of people in the continental United States.

01:082:444 ***Special Topics in Architectural Preservation: CHAPS (3)***
Industrial Heritage landscapes have only recently been recognized as containing and representing significant legacies for local, regional, and global histories and identities. But the milestones of industrialization that often speak to a history of progress - a heritage of innovation (science & technology), infrastructure, and extraction live on in a variety of modern industrial sites, buildings and architecture, plants, machinery and equipment, as well as housing, industrial settlements, industrial landscapes, products and processes. These remnants of industrial societies are the legacies of processes of modernization, which have left an indelible mark on urban and rural landscapes across the world. This course offers a detailed examination of such legacies in a comparative approach, offering in-campus preparatory seminars on the positive and negative associations and management strategies of different industrial legacies in New Jersey, complemented with a comparative view of the industrial history, heritage and futures of a South American city (for 2025 Arica, Chile). Why and how are these landscapes incorporated into heritage languages and plans? What are the methodologies through which the experience of 'the industrial' can be documented and represented?

01:082:448 ***Internshp Hist Presv (3)***
Supervised internship in the field of cultural heritage conservation and preservation at an approved institution.

01:082:492 ***Captone in Art History***
Advanced study in selected area of art history.

01:082:492 ***Individual Studies in Art History***
Open only to seniors in art history or by special permission from the instructor. Guided independent research in a particular area of interest.

01:082:496 ***Internshp Art Hist (3)***
Open only to majors. Supervised internship, usually at a museum or gallery. Permission required.
Prerequisite: 01:082:105,106 or special permission.

01:082:496 ***Honors in Art History (3,3)***
Independent research on a specific topic leading to an honors thesis written under the supervision of a department faculty member. Candidates for honors in art history must, at the end of their junior year, have a cumulative grade-point average of 3.0 or better and an average of 3.5 or better in the major. Both semesters must be completed in order to receive the total credits (6) for both courses

Art History 082 (SGS-AH)

Application Requirements

Application Requirements

- Online application form
- Personal Statement
- Writing Sample
- Three letters of recommendation
- All official transcripts (undergraduate and graduate level, if applicable)
- Official TOEFL or IELTS score (for international applicants)

Art History 082 (SGS-AH)

Admission Deadlines

Admission Deadlines

APPLICATION TYPE	US APPLICANTS	NON-US APPLICANTS	MERIT-BASED AID
Ph.D.	January 10	January 10	January 10
M.A.	January 10	January 10	January 10

Art History 082 (SGS-AH)

List of Courses

List of Courses

390 MODERN ART 20TH CENT

503:01 Independent Study Art History - Use in Fall

503:02 Independent Study Art History - Use in Fall

504:01 Independent Study Art History - Use in Spring

504:02 Independent Study Art History - Use in Spring

506 Approaches to Art History, Fall 2023

509 African Art and Architecture

530 Foundations in Cultural Heritage and Preservation Studies, Fall 2023

563 Curatorial Training

585 CHAPS: Museums, Collecting and Preservation

590 Internship in Cultural Heritage and Preservation Studies - Use in Fall

591 Internship in Cultural Heritage and Preservation Studies - Use in Spring

592 Art History Seminar, Fall, 2023

593 Special Topics in Politics, History and Heritage

594 Studies in Cultural Heritage and Preservation Studies, Fall 2023

595 Curatorial Internship I - Use in Fall or Spring

596 Curatorial Internship II - Use in Fall or Spring

601 Special Topics in Art History, Fall 2023

605 Methods in Cultural Heritage and Preservation Studies

607 Advanced Internship/Field Study

622 Problems in Medieval Art

630 Problems in Italian Renaissance Painting

641 Problems In Baroque Art of Italy and Spain

655 Problems in 20th Century Art

657 Problems in Modern Art

688 Topics in Contemporaneity

698 Exhibition Seminar

699 Non-thesis Study

701 Research in Art History - Use in Fall

702 Research in Art History - Use in Spring

705 Research Proposal in Art History

707 Research in Cultural Heritage and Preservation Studies - Use in Fall

708 Research in Cultural Heritage and Preservation Studies - Use in Spring

800 Matriculation Continued

811 Graduate Fellowship

866 Full Graduate Assistantship

877 Full Teaching Assistantship

Art History 082 (SGS-AH)

Cultural Heritage and Preservation Studies (CHAPS)

Cultural Heritage and Preservation Studies (CHAPS)

The study of cultural heritage and preservation has been concerned with the management of material change over time, but a recognition of diverse definitions and practices for cultural heritage and its preservation means our focus today also includes the study of changing contexts, relationships, scales, and values.

Crossing boundaries between the humanities and social sciences and based in the Department of Art History, **CHAPS** provides a unique opportunity in the USA to study cultural heritage and preservation issues and practices within local, national, and global contexts.

CHAPS offers a Master of Arts degree in Art History with a concentration in Cultural Heritage and Preservation Studies, a B.A./M.A. Co-terminal Degree, a M.A./J.D. dual degree in collaboration with the Rutgers Law School and a Ph.D. in Art History with a concentration in Cultural Heritage and Preservation Studies. We also offer undergraduate and graduate certificates in historic preservation for students already enrolled at Rutgers in collaboration with the Edward J. Bloustein School of Planning and Public Policy.

Atmospheric Science 107 (SGS-ATMOS)

ATMOSPHERIC SCIENCE 107

Degree Programs Offered: M.S., Ph.D.

Please visit the Atmospheric Science website.

Program Description

Students and faculty in the Rutgers Graduate Program in Atmospheric Science conduct research on a variety of topics, including climate dynamics from regional to global scales, synoptic meteorology and extreme events, tropical meteorology, paleoclimate, cloud and radiation physics, ocean-atmosphere interactions, land-atmosphere interactions, and climate-chemistry-aerosol interactions.

Campus Locations

Cook/Douglass Campus - New Brunswick

Faculty

Anthony Broccoli, Ph.D., Rutgers

Chi Chen, B.E., Ph.D., Boston

Enrique Curchitser, Ph.D., Rutgers

Steven Decker, Ph.D., Wisconsin (Madison)

Xiaomeng Jin, Ph.D., Columbia

Robert Kopp, Ph.D. California Institute of Technology

Benjamin Lintner, Ph.D., California (Berkeley)

Monica Mazurek, Ph.D., California (Los Angeles)

Travis Miles, Ph.D., Rutgers

Mark Miller, Ph.D., Pennsylvania

Ying-Fan Reinfelder, Ph.D., Utah

Åsa Rennermalm, Ph.D., Princeton

Jean Rivera-Rios, Ph.D., Harvard

David Robinson, Ph.D., Columbia

Alan Robock, Ph.D., Massachusetts Institute of Technology

James Shope, Ph.D., California (Santa Cruz)

Mary Whelan, Ph.D., California (Berkeley)

John Wilkin, Ph.D., Massachusetts Institute of Technology (Woods Hole Oceanographic Institution)

Lili Xia, Ph.D., Rutgers

Degree Requirements

Degree Requirements

The M.S. degree requires a minimum of 24 course credits and 6 research credits for the thesis option and 30 course credits for the non-thesis option. The Ph.D. degree requires at least 30 course credits and 24 research credits. For the Ph.D., 18 additional credits must also be taken in either course or research credits, for a total minimum of 72 credits. All M.S. students must take at least 1 credit of seminar, and all Ph.D. students must take at least two 1-credit seminars.

Core Courses

All Ph.D. students must take the course listed under each core area below. All M.S. students select courses from 4 of the 5 core areas.

Physics:
16:107:532 Atmospheric Physics (Fall, odd years)
Chemistry:
16:375:540 Atmospheric Chemistry (Fall)
Dynamics:
16:107:501 Fundamentals of Geophysical Fluid Dynamics (Spring, odd years)
Climate:
16:107:545 Physical Climatology (Spring, even years)
Data analysis/statistics:
16:712:615 Geophysical Data Analysis (Spring, odd years)

Ph.D. students must fulfill these course requirements prior to taking the Qualifying Examination.

Courses Outside of the Core Requirements

Students are encouraged to take courses not listed in the core requirements when these are considered desirable for their research or academic development. All course selections should be discussed with the student's faculty advisor. Courses to consider include, but are not limited to, the following:

11:670:444 Tropical Meteorology
11:670:453 Air Quality Modeling
16:107:544 Modeling of Climatic Change
16:107:553 Mechanisms of Past Climate Change
16:107:571 Climate Change Risk Analysis
16:375:524 Source Control of Atmospheric Pollution (Design Course)
16:375:536 Air Sampling and Analysis Techniques (Lab)
16:712:501 Physical Oceanography
16:712:502 Large Scale Ocean/Atmosphere Dynamics (Spring, even years)
16:712:552 Remote Sensing of the Ocean & Atmosphere
16:712:603 Numerical Modeling of the Atmosphere and Ocean I
16:960:590 Design of Experiments

Undergraduate Courses

In many cases 300 or 400 level undergraduate courses are appropriate and accepted for credit (G prefix) toward a graduate degree with advisor approval; however, the number of undergraduate credits associated with the degree must not exceed 12.

Transfer of Credits From Other Institutions

Up to 24 of credits required for a doctoral degree, and up to 40% of the required credits for the master’s degree, may be transferred from another institution under the following restrictions:

- Credits must not have been used toward meeting the requirements of the undergraduate degree.
- Official transcripts must be provided.

- The courses must be relevant to the student's program of study.
- The student must have earned at least 9 credits at Rutgers and be in good standing in a graduate program prior to the transfer request.
- Transfers may be disallowed under the following circumstances: (a) courses were taken six or more years earlier; (b) courses do not meet standards of graduate courses, (c) grades were less than B.

Requests for approval of transfer of credits should be made using the fillable form available on the website of the School of Graduate Studies. All requests must include the official transcript, and indicate the approval of the Graduate Director, including the name of the Graduate Director and contact information. In some cases, a statement explaining the relevance to the program of study, and verifying that the courses meet starts of graduate courses may be required.

Grades

Students must maintain a minimum GPA of 3.0 for all coursework taken at Rutgers toward a graduate degree. No more than one course with a grade of C or C+ may be counted toward the degree.

Atmospheric Science 107 (SGS-ATMOS)

Admission Deadlines

Admission Deadlines

For best consideration apply by these dates:

APPLICANT TYPE	US APPLICANTS	NON-US APPLICANTS	MERIT-BASED AID
Ph.D.	December 15	December 15	December 15
M.S.	March 1	March 1	December 15

Atmospheric Science 107 (SGS-ATMOS)

Course Descriptions

Course Descriptions

Numbers in parentheses are the credits per course.

* = Core courses, BA = By Arrangement with instructor.

16:107:501 ***Fundamentals of Geophysical Fluid Dynamics* (3)***
Instructor: E. Curchitser, B. Lintner
The theoretical basis for atmospheric and oceanic fluid dynamics: derivation of the equations of motion on the sphere; conservation of angular momentum, vorticity and energy; linear wave dynamics; hydrodynamic instability.
Prerequisites: 01:640:251; 11:670:324; 11:628:451 or equivalent.

16:107:532 ***Atmospheric Physics* (3)***
Instructor: M. Miller
The atmospheric physics of gravitation, clouds and aerosols, precipitation, energy and momentum transfer, solar and terrestrial radiation, optics, acoustics.
Prerequisites: Permission of instructor.

16:107:536 ***Air Sampling and Analysis Techniques (3)***
Instructor: G. Mainelis
Theory and laboratory exercises in ambient and indoor air sampling. Topics range from classical air sampling trains to the use of state-of-art direct-reading instrumentation, and measurements of airborne nanoparticles and airborne biological agents.
Prerequisites: 11:375:421 or equivalent.

16:107:544 ***Modeling of Climatic Change (3)***
Instructor: A. Robock
Climate models, including energy-balance, radiative-convective, and general circulation models. Actual practice running climate models and analyzing output.
Prerequisites: At least one graduate course in meteorology, oceanography, or physical geography. Knowledge of a high-level programming language, such as FORTRAN or C.

16:107:545 ***Physical Climatology* (3)***
Instructor: A. Broccoli
The climate system, surface-energy balance, past climate variations, climate-feedback mechanisms, climate modeling, causes of climate change, detection and attribution of anthropogenic climate change.
Prerequisite: A basic course in meteorology or climatology.

16:107:553 Mechanisms of Past Climate Change (3)
Instructor: A. Broccoli
Mechanisms responsible for changes in climate during Earth's distant past, including orbital forcing of climate change, millennial-scale climate variability, and past changes in tropical atmosphere-ocean interaction.
Prerequisite: Graduate-level coursework in meteorology, oceanography, geology, or physical geography.

16:107:571 ***Climate Change Risk Analysis (3)***
Instructor: R. Kopp and E. Curchitser
Science, economics and policy of climate change risks. Extreme events, sea-level rise, agriculture, energy, health, labor, conflict, ecosystem services, tipping points. Decision- making under uncertainty and with long time horizons.
Prerequisite: Permission of instructor.

16:107:603,604 ***Independent Study in Atmospheric Science (BA,BA)***
The student conducts an independent comprehensive literature review and investigation of meteorological areas of interest other than the thesis topic. Regular reports of progress made in conference.
Prerequisite: Permission of instructor.

16:107:605,606 ***Special Topics in Atmospheric Science (3,3)***
Selected topics in atmospheric science. Current literature and recent advances.
Prerequisite: Permission of instructor.

16:107:671,672 ***Seminar in Atmospheric Science (1,1)***
Review of recent advances in atmospheric science.
Prerequisites: 11:670:323, 324, or equivalent.

16:107:701,702 ***Research in Atmospheric Science (BA,BA)***
Research in atmospheric science.

Courses in other graduate programs that are of the GPAS curriculum or are recommended for GPAS students:

Numbers in parentheses are the credits per course.

* = Core courses, BA = By Arrangement with instructor.

16:180:563 ***Advanced Hydrology (3)***
Hydrologic processes and modeling: evapotranspiration, infiltration, precipitation and snow melt, overland flow, subsurface and surface flow relations, channel and watershed routing; hydraulic flood routing, numerical methods; watershed modeling; stochastic processes in hydrology; flood and drought risks, flood plain analysis and management.

16:375:524 ***Source Control of Atmospheric Pollution (3)***
Instructor: R. Miskewitz
Principles, operation, performance, and application of methods and devices to control aerosol and gaseous emissions.
Prerequisite: Permission of instructor.

16:375:540 ***Atmospheric Chemistry* (3)***
Instructor: M. Whelan
Air pollutants, trace gases, and aerosols discussed in terms of their observed distribution in time and space; sources and sinks in the atmosphere and its boundaries; budgets and cycles. Emphasis on tropospheric chemical reactions.
Prerequisite: 11:375:421 or permission of instructor.

16:650:636 ***Turbulence (3)***
Physical aspects and methods of analysis of turbulent flows; scaling laws, modeling techniques, and statistical description of turbulence; application to problems in engineering science and geophysical fluid dynamics.
Prerequisite: 16:650:530.

16:650:640 ***Acoustics (3)***
Sound-wave propagation in gases and liquids. Reflection and transmission phenomena. Emission and absorption of sound.
Pre- or co-requisites: 16:642:530 Undergraduate Fluid Mechanics/Advanced Mathematics.

16:712:501 ***Physical Oceanography (3)***
The physical and chemical properties of sea water; sound and radiation in the oceans; heat, water, and momentum exchange at air-sea interface; tides, waves, and currents.
Prerequisites: One year of college calculus and college physics.

16:712:502 ***Large Scale Ocean and Atmosphere Dynamics (3)***
Instructors: D. Haidvogel, E. Curchitser, and B. Lintner
The theoretical basis for the observed large-scale, atmospheric and ocean circulation is presented. Topics include: derivation of the three-dimensional equations of motion; vorticity and energy; the planetary boundary layer; synoptic-scale motions; linear waves; hydrodynamic instability; the general circulation on the sphere; the effects of boundaries on large-scale horizontal flow; and vertical structure and motion.
Prerequisite: 16:712:501 or permission of instructor.

16:712:552 ***Remote Sensing of Oceans and Atmospheres (3)***
Instructors: M. Miller, X. Jin
This course provides an introduction to physical principles of remote sensing; an overview of past, present, and future instruments on satellites, aircraft, the surface, and under the ocean; and a description of many applications in oceanography and atmospheric sciences.
Prerequisites: Permission of instructors.

16:712:560 ***History of Earth Systems (3)***
Instructor: P. Falkowski
This course integrates atmospheric, oceanographic, geological and biological concepts with a historical perspective to introduce the student to the major processes that have shaped Earth's environment. The course will examine climatic processes on geological time scales, the evolution of organisms, the cycling of elements, and the feedbacks between these processes.
Prerequisites: Introductory chemistry, biology, and physics or by permission.

16:712:615 ***Geophysical Data Analysis* (3)***
Instructors: R. Chant, J. Wilkin
Quantitative analysis and display of spatial and time-series data; filters; spectral analysis; covariance; coherence; confidence intervals; goodness-of-fit; optimal interpolation of unequally spaced data; empirical orthogonal functions; and harmonic analysis. Practical exercises using Matlab to analyze data from marine and environmental instruments, satellites, and climatologies. Communicating quantitative results to an audience.
Prerequisites: Calculus, differential equations, linear algebra.

16:960:590 ***Design of Experiments (3)***
Fundamental principles of experimental design; completely randomized variance component designs; randomized blocks; Latin squares; incomplete blocks; partially hierarchic mixed-model experiments; factorial experiments; fractional factorials; and response surface exploration.
Prerequisite: 01:960:484 or 401 or equivalent.

Bioenvironmental Engineering 116 (SGS-BIOENG)

BIOENVIRONMENTAL ENGINEERING 116

The Bioenvironmental Engineering Graduate Program is no longer accepting applications. Please refer to the Environmental Engineering 366 Graduate Program catalog page.

Biomedical Engineering 125 (SGS-BIOMED)

BIOMEDICAL ENGINEERING 125

Degree Programs Offered: M.S., M.E., Ph.D., M.D.–Ph.D.

Please visit the Biomedical Engineering website.

Program Description

The Biomedical Engineering Graduate Program is intended for promising students aiming to make original contributions to the field of biomedical engineering. We offer degrees that reflect individual student goals from career advancement to research-intensive. Our students receive outstanding graduate-level training from among six critical areas of biomedical engineering and technology, including:

- Biomaterials and Tissue Engineering
- Biomechanics and Rehabilitation Engineering
- Computational Bioengineering and Biomedical Imaging
- Molecular, Cellular, and Nanosystems Bioengineering
- Neuroengineering
- Physiological Systems and BioInstrumentation

Campus Locations

Busch Campus - New Brunswick

Faculty

Glenn Amatucci, Ph.D., Rutgers

Steven An, Ph.D., Brown

Ioannis Androulakis, Ph.D., Purdue

Jean Baum, Ph.D., California (Berkeley)

Kavita Beri, Ph.D., Mahatama Gandhi Mission Medical

Francois Berthiaume, Ph.D., Pennsylvania

Gyan Bhanot, Ph.D., Cornell

Nada Boustany, Ph.D., Harvard (MIT)

Kenneth Breslauer, Ph.D., Yale

Helen Buettner, Ph.D., Pennsylvania

Tiffany Butler, Ph.D., Temple

Li Cai, Ph.D., UMDNJ, Rutgers

Carlos Eduardo, Caicedo-Carvajal, Ph.D., Rutgers, UMDNJ

Shishir P. S. Chundawat, Ph.D., Michigan

Kimberly Cook-Chennault, Ph.D., Michigan

William Craelius, Ph.D., Northwestern

Wei Dai, Ph.D., Baylor College of Medicine

Shabbar Danish, M.D., UMDNJ, RWJMS

Gary Drzewiecki, Ph.D., Pennsylvania

Michael Dunn, Ph.D., Rutgers

Meenakshi Dutt, Ph.D., Duke

Richard Ebright, Ph.D., Harvard

Laura Fabris, Ph.D., Padova (Italy)

Bonnie Firestein, Ph.D., California (San Diego)

David Foran, Ph.D., Rutgers

Joseph Freeman, Ph.D., Rutgers, UMDNJ

Vidya Ganapathy, Ph.D., California

Shridar Ganesan, Ph. D., Yale

Marc Gartenberg, Ph.D., Yale

Charles Gatt, M.D., UMDNJ, RWJMS

Panagiotis Georgopoulos, Ph.D., California Institute of Technology

Adam Gormley, Ph.D., Utah

Martin Grumet, Ph.D., Johns Hopkins

James Guarrera, Ph.D. Institution: MD, Mount Sinai

Zhixiong Guo, Ph.D. Polytechnic

Ilker Hacihaliloglu, Ph.D., British Columbia

Umer Hassan, Ph.D., Illinois (Urbana)

Mehdi Javanmard, Ph.D., Stanford

Sagar Khare, Ph.D., North Carolina (Chapel Hill)

Doyle Knight, Ph.D., California Institute of Technology

Anat Kreimer, Ph.D., Columbia

Suneel Kumar, Ph.D., All India Institute of Medical Sciences

Kristen Labazzo, Ph.D., Rutgers

Noshir Langrana, Ph.D., Cornell

KiBum Lee, Ph. D., Northwestern

Sang-Hyuk Lee, Ph.D., New York University

John Li, Ph.D., Pennsylvania

Yicheng Lu, Ph.D., Colorado

Richard Mammone, Ph.D., CUNY

Adrian Mann, Ph.D., Oxford (UK)

David Margolis, Ph.D., Washington

Lloyd Marks, M.D., Michigan

Bozena Michniak-Kohn, Ph.D., Leicester Polytechnic

Prabhas Moghe, Ph.D., Minnesota

Sanjeeva Murthy, Ph. D., Connecticut

Fernando Muzzio, Ph.D., Massachusetts (Amherst)

Laleh Najafizadeh, Ph.D., Georgia Insitute of Technology

Vikas Nanda, Ph.D., Johns Hopkins

Alexander Neimark, M.S., Ph.D., DS.c., Moscow

Judith Neubauer, Ph.D., Rutgers

Wilma Olson, Ph.D., Stanford

Zhiping Pang, Ph.D., Texas (Southwestern)

Biju Parekkadan, Ph.D., Harvard (MIT)

Henrik Pedersen, Ph.D., Yale

Assimina Pelegri, Ph.D., Georgia Institute of Technology

Mark Pierce, Ph.D., Manchester (UK)

Richard Riman, Ph.D., Massachusetts

Charles Roth, Ph.D., Delaware

Mohammad Ali Saghiri, Ph.D., Azad (Iran)

Derek Sant'Angelo, Ph.D., Rutgers

Jerry Scheinbeim, Ph.D., Rutgers

Rene Schloss, Ph.D., Harvard

Benjamin Schuster, Ph.D., John Hopkins

Troy Shinbrot, Ph.D., Maryland

Anil Shirao, Ph.D., New Jersey Institute of Technology

David Shreiber, Ph.D., Pennsylvania

Frederick Silver, Ph.D., Massachussetts Institute of Technology

Patrick Sinko, Ph.D., Michigan

Hai Sun, Ph.D., Thayer School of Engineering, Dartmouth College

Jay Sy, Ph.D., Georgia

Paul Takhistov, Ph.D., USSR Academy of Science

Jay Tischfield, Ph.D., Yale

Maria Tomassone, Ph.D., Northeastern

Elizabeth Torres, Ph.D., California (San Diego)

Valerie Tutwiler, Ph.D., Drexel

Maribel Vazquez, Ph.D., Massachussetts Institute of Technology

Harvey Weiss, Ph.D., Duke

Naveena Yanamala, Ph.D., Pittsburgh

Jason Yang, Ph.D., Virginia

Martin Yarmush, Ph.D., Rockefeller; M.D., Yale

Wise Young, Ph.D., Iowa; M.D., Stanford

Jeffrey Zahn, Ph. D., California (San Franscisco & Berkeley)

Haoran Zhang, Ph.D., Xiamen (China)

Degree Requirements

Degree Requirements

SUMMARY OF MINIMUM M.S./M.ENG. REQUIREMENTS	
3 out of 5 BME Core Courses	9 credits
Advanced Engineering Math Course	3 credits
Advanced Cell Biology Course	3 credits
3 Bioengineering Electives (4 if M.Eng)	9 credits (12 credits if M.Eng)
3 out of 5 Professional Developmental Courses	3 credits
Research (M.S. ONLY)	6 credits
Non-Thesis Study (M.Eng ONLY)	3 credits (MUST take an additional 3 credit elective)
BME Seminars each fall/spring semester after Y1	0 credits *(REQUIRED COURSE 605)*
Total	**33 credits**

SUMMARY OF MINIMUM PH.D. REQUIREMENTS	
3 out of 5 BME Core Courses	9 credits
Advanced Engineering Math Course	3 credits
Advanced Cell Biology Course	3 credits
BioStatistics Course	3 credits
Life Science/Medical Elective	3 credits
3 Bioengineering Electives	9 credits
5 Developmental Courses	5 credits
Non-Thesis Study (1st year Rotation)	3 credits
Research (minimum)	34 credits
BME Seminars each fall/spring semester after Y1	0 credits *(REQUIRED COURSE 605)*
Total	**72 credits (35 course credits)**

Course Descriptions

Course Descriptions

For more information, please see the Graduate Programs page on the School of Graduate Studies website.

Biomedical Engineering 125 (SGS-BIOMED)

Admission Deadlines

Admission Deadlines

For best consideration apply by these dates:

APPLICATION TYPE	US APPLICANTS	NON-US APPLICANTS
Ph.D.	December 15	December 15
M.S.	March 1	March 1

APPLICATION TYPE	US APPLICANTS	NON-US APPLICANTS
M.E.	March 1	March 1

No intake for Spring terms, or By Arrangement Only

Biomedical Engineering 125 (SGS-BIOMED)

Graduate Degrees

Graduate Degrees

We offer graduate degrees that reflect individual student goals from career advancement to research intensive.

Master of Science Degree

The MS degree in Biomedical Engineering is a thesis-based degree for students who wish to equip themselves with a more solid foundation of life science and engineering fundamentals and prepare themselves for professional advancement in industry.

Master of Engineering Degree

The M.E. degree focuses on preparing students in the fundamentals of biomedical engineering without a thesis—it is a terminal degree that is not intended to lead to a Ph.D. program.

Doctoral Degree

The doctoral degree is primarily a research-oriented degree for students showing promise for original contributions to the fundamental understanding of biomedical engineering and its applications.

Accelerated Bachelor of Science/Master of Science Degree (B.S./M.S.)

The goal of the BME BS/MS is to allow academically qualified students to receive the B.S. and M.S. degrees in a shortened time frame. This highly intensive academic program gives students more research experience and better prepares them for research and development careers or further graduate study.

Biomedical Engineering 125 (SGS-BIOMED)

Research

Research

Our faculty members are committed to research, often in collaboration with industry and other disciplines, to advance the state of knowledge and practice in our field. With a focus on key areas of critical importance to national competitiveness and productivity, our faculty members have achieved international recognition for their contributions to these areas. Both the curriculum and laboratories are designed to support these research focus areas:

- **Biomaterials and Tissue Engineering**
- **Biomechanics and Rehabilitation Engineering**
- **Computational Bioengineering and Biomedical Imaging**
- **Molecular, Cellular, and Nanosystems Bioengineering**
- **Neuroengineering**
- **Physiological Systems and BioInstrumentation**

The Department of Biomedical Engineering at Rutgers offers unparalleled access to leaders and innovators in a wide range of research areas, including: molecular systems bioengineering, biomaterials and tissue engineering, bionanotechnology, biomechanics, rehabilitation engineering, and biomedical imaging.

Business and Science 137, 196, 345 (SGS-BUSSCI)

BUSINESS AND SCIENCE 137, 196, 345

Degree Programs Offered: M.B.S.

Campus Locations

Busch Campus - New Brunswick

Online

Faculty

Clinton Andrews, Ph.D., Massachusetts Institute of Technology

Haim Baruh, Ph.D., Virginia Polytechnic Institute

Karen Bemis, Ph. D., Rutgers

Tom Bryant, Ph.D., Massachusetts Institute of Technology

David Coit, Ph.D., Pittsburgh

Eric Davis, Ph.D., Chicago

Hae Chang Gea, Ph.D., Michigan

Zoran Gajic, Ph.D., Michigan

Jay Goldring, B.A., Columbia; M.S., North Carolina; Ph.D.

Lisa Klein, Ph.D., Massachusetts

John Kolassa, Ph.D., Chicago

Uta Krogmann, Ph.D., Hamburg (Harburg)

Debashis Kushary, Ph.D., Rutgers

Adam Kustka, Ph.D., SUNY (Stony Brook)

Richard Lathrop, Jr., Ph.D., Wisconsin (Madison)

Michael Lawton, Ph.D., Oxford

Richard Lehman, Ph.D., Rutgers

Michael Lesk, Ph.D., Harvard

Kevin Lyons, Ph.D., Sunderland

Richard Mammone, Ph.D., CUNY

Paul Meers, Ed.D., Rutgers

Benjamin Melamed, Ph.D., Michigan

Bozena Michniak-Kohn, Ph.D., Leicester Polytechnic

Rupa Misra, Ed.D., Columbia

Dipanjan Nag, Ph.D., Nebraska (Lincoln)

Hani Nassif, Ph.D., Michigan; P.E.

Christie Nelson, Ph.D., Rutgers

Hoang Pham, Ph.D., SUNY (Buffalo)

William Pottenger, Ph.D., Illinois (Urbana-Champaign)

Suneeta Ramaswami, Ph.D., Pennsylvania

Mark Robson, Ph.D., Rutgers

Charles Roth, Ph.D., Delaware

Lindy Ryan

Sunil Shende

David Shreiber, Ph.D., Pennsylvania

Matthew Sills, Ph.D., Pennsylvania

Deborah Silver, Ph.D., Princeton

Lee Slater, Ph.D., Lancaster

Barry Sopher, Ph.D., Iowa

Lars Sorensen

Paul Takhistov, Ph.D., USSR Academy of Science

Sangya Varma, Ph.D., Mississippi

Ralf Warmuth, Ph. D., Johann Wolfgang Goethe

Jeffrey Zahn, Ph. D., California (San Francisco & Berkeley)

Business and Science 137, 196, 345 (SGS-BUSSCI)

Degree Requirements

Degree Requirements

The Master of Business and Science (M.B.S.) degree combines advanced STEM-based courses with applied business courses, experiential learning, and extensive networking opportunities thanks to our long-standing academic-industry partnerships.

Choose from more than 25 academic concentrations in three key areas: Life Sciences, Engineering Management, and Computer & Information Sciences. Our programs are flexible and customizable to fit students' individual career goals and can be taken either part-time or full-time, in-person/hybrid or online.

Academic Requirements

1. Students are required to complete a minimum of 43 credits*
    - Twenty-four (24) are science credits that align with their chosen concentration.
    - Nineteen (19) are business credits of which thirteen (13) are accrued by completing core business courses.
2. The overall GPA must be > 3.0**
3. No more than 9 credits of C or C+ may be used to meet degree requirements.***
4. Additional details on degree and graduation requirements can found through the M.B.S. Degree Requirements website.

Business Curriculum

A total of 19 credits is required in the business curriculum for the Master of Business and Science (M.B.S.) degree.

Required Business Courses (13cr)

- 16:137:500 Ethics in Science and Technology Management (1cr)
- 16:137:502 Principles of Communication and Leadership (3cr)
- 16:137:507 Market Assessment and Analysis for Business and Science (3cr)
- 16:137:530 Principles of Accounting and Finance for Science and Technology (3cr)
- 16:137:600 Science and Technology Management Capstone (3cr)
    - Prerequisite Courses: 16:137:502, 16:137:507, 16:137:530

Suggested Business Electives (6cr)

- 16:137:501 Fundamentals of Intellectual Property (Cr. 3)
- 16:137:563 Basics of AI for Science Professionals (Cr. 3)*
- 16:137:575 Food and Business Innovation (Cr. 3)
- 16:137:508 Science-Based Project Management (Cr. 3)
- 16:137:543 Data Storytelling (Cr. 3)
- 16:137:606 Special Topics: Sustainability: Supply Chain Management Green Purchasing (Cr. 3)
- 16:137:608/609/610 Professional Internship (Cr. 3)
- 16:137:611/612/613 Research Internship (Cr. 3)
- 16:137:650 Topics in Management (Cr. 3)
- 16:137:653/654/655 Externship Experience I (Cr. 3)

Colloquia Requirement

1. Students must attend 12 colloquia.
    - Students can attend colloquia over the time they are completing their academic degree requirements.

Work Requirement

1. Students must demonstrate the equivalent of 1-year of relevant work experience.
2. The work experience may be accrued prior to starting the M.B.S. degree program or simultaneous to completing the academic degree requirements.
3. Scenarios that constitute one year of relevant work experience include:
    - One year of work in a relevant field in a professional position.
    - 2 semesters of an internship. ****
    - For circumstances where it is not possible for the student to meet #1 or #2 a combination of externship and internship may be used with the approval of the Academic Officer.

Graduation Checklist

Upon applying to graduate from the M.B.S. degree program, upload each of the components of the Graduation Checklist on Canvas.

Students may take more than the minimum 43 credits and there are no restrictions on choices of courses taken in excess of degree requirements.

*School of Graduate Studies Policies and Procedures Section 1.3.1

***School of Graduate Studies Policies and Procedures Section 1.3.1

****Students have the option of registering for up to 6 credits of Internship to fulfill this requirement.

Course Descriptions

Course Descriptions

16:137:500 ***Ethics for Science and Technology Management (1)***
Examine ethical problems unique to STEM-focused business entities. Study ethical principles, organizational ethics, corporate social responsibility, and whistleblowers' responsibility. Learn—and practice—problem-solving approaches and tools to construct well-reasoned arguments and research decisions about how to proceed in the face of ethical lapses and dilemmas.

16:137:501 ***Fundamentals of Intellectual Property (3)***
Learn the fundamental and practical aspects of intellectual property (IP), emphasizing IP strategies. Learn about forms of IP, IP strategy, IP markets, start-ups, negotiations involving IP, IP due diligence, technology transfer, licensing and commercialization, valuation, and metrics-based quality assessment of IP. There will be an emphasis on IP strategy from the standpoint of corporations and universities. Take a trip to the US Patent and Trademark Office in Alexandria, VA.

16:137:502 ***Principles of Communication and Leadership (3)***
Examine the factors that contribute to successful leadership practices in a wide variety of organizational settings. Communication is the key component of leadership success and today, communication is complicated by technology.

16:137:503 ***Colloquium in Professionalism for Science and Technology Management (0)***
This seminar-style course complements and reinforces the business and scientific concepts taught in the classroom. Discover the cutting-edge trends in science- and technology-focused business sectors. Learn directly from experts and seasoned professionals from both STEM-focused industries and the business world at large. Register for 16:137:503 (0 credits) if the student will earn 43 credits by the end of their final semester.

16:137:504 ***Colloquium in Professionalism for Science and Technology Management (1)***
This seminar-style course complements and reinforces the business and scientific concepts taught in the classroom. Discover the cutting-edge trends in science- and technology-focused business sectors. Learn directly from experts and seasoned professionals from both STEM-focused industries and the business world at large. Register for 16:137:504 (1 credit) if the student will only earn 42 credits by the end of their final semester.

16:137:507 ***Market Assessment and Analysis for Business and Science (3)***
Gain a solid foundation in strategic marketing concepts in a dynamic integrated marketing context. Learn how to develop and implement actionable marketing strategies. Build a more connected brand in a real-time marketing world where constant change is the norm. Study decision-making processes in management of the marketing mix. The course will include persona development, target market selection, use of marketing research (traditional and social), and brand-building strategies, centered around the 4 P's (Product, Promotion, Pricing, and Placement).

16:137:508 ***Science-Based Project Management (3)***
Examine the world of project management. Study real-world successes, opportunities, struggles, and challenges. Learn the strategic, business, financial, political, operational, and conceptual issues faced by modern project managers, program management offices (PMOs), and enterprises. Develop, execute, and control a complex project capable of supporting business objectives linked to measures of success for high-impact teams, projects, and portfolios.

16:137:510 ***Drug Development from Concept to Market (3)***
Learn the steps needed to bring a drug from a research concept to a marketed product. Investigate the developmental process of small molecule and biological pharmaceutical products. Investigate the economics and the biological basis of major therapeutic areas along with the mechanisms of action, pharmacological properties, and marketing strategies of specific FDA-approved drugs.

16:137:511 ***Drug Discovery through Preclinical Development (3)***
Study the drug discovery and development process from target identification to the Investigational New Drug (IND) application phase. Explore a number of drug targets from five different therapeutic areas, including inflammation, oncology, cardiovascular, neuroscience, and diabetes. Learn about several current therapeutics utilized in these disease areas and investigate why a number of drug targets in these areas have been unsuccessful in delivering a preclinical drug candidate. In teams, evaluate a potential drug target and consider challenges that research project teams encounter in advancing a drug to preclinical development.

16:137:514 ***Fundamentals of Biological Chemistry in Biotech Industries (3)***
Learn about the applications of biochemical and molecular biology principles in relation to modern biomedical and biotechnology problems. This course prepares you for careers in pharmaceutical and biotechnology industries.

16:137:525 ***Introduction to Product Design and Development (3)***
Learn about the field of Product Design, with emphasis on three main areas: marketing, product design, and manufacturing. Learn the end-to-end process of product design—from identification of opportunities to understanding target markets and the needs of the end-user, and how to create product forms and functions to both meet those needs and elicit a positive experience. Study the essential elements of the supply chain.

16:137:526 ***Product Experience Design and Innovation (3)***
Learn the psychology of how and why user experiences are critical to product design—especially in today's increasingly experience-driven economy, where consumers are purchasing not just the product but also the experience. Through case studies, analyze the products, business models, and positioning strategies of successful and innovative companies including Apple and Tesla.

16:137:527 ***Product Framing and Prototyping (3)***
In this advanced prototyping course, learn to apply agile manufacturing methods to create functional, high-fidelity prototypes such as wireframes, concepts, feasibility, etc. Examine techniques to maximize the form and function of products, and find out how to modify prototypes accordingly. Learn to convert product concepts into 3D models using state-of-the-art modeling tools, techniques, and software. Print 3D prototypes using either plastic or metal materials at Rutgers Makerspace. In concert with advanced prototyping, study the importance of product framing—analyzing the strengths and weaknesses of market competitors—and choose one of four frame styles to create a product. Along with form and function, learn about product quality and materials.

16:137:530 ***Principles of Accounting and Finance for Science and Technology Management (3)***
Gain practical, working knowledge of the tools and language of finance in general and as they pertain to the management of science and technology. Identify the use—and limitations—of financial tools in making business decisions including capital expansion, funding research and development, and managing working capital. By analyzing the income statement, balance sheet, and source sand uses of funds statement, learn how the business environment and a company's prior decisions affect reported business performance.

16:137:531 ***Introduction to User Experience Design (UXD) (3)***
Enter into the field of User Experience Design (UXD). Through an integrated team of expert instructors, learn processes central to specifying, designing, and testing computer interfaces for user-friendliness. Learn how UXD functions as part of the interface development process, the role of UXD in company business operations, and how various elements of UXD are integrated during the design and development process—particularly with regard to accessibility and mobile computing.

16:137:532 ***Contextual Inquiry (3)***
Learn about a variety of research techniques, including how to choose among them for the problem that needs to be solved and how to apply the results with insights to create engaging and usable design. Conduct research, synthesize data, and use this information in design. Build a core toolkit that will help you throughout your UXD career.

16:137:533 ***Visual Design for User Experience (3)***
Learn the fundamental principles, practices, and processes of visual design within the context of creating sound user experiences. Identify the anatomy of successful visual design for print, digital, and physical projects—examining key elements including unity, space, balance, color, typography, and imagery. Tell a compelling visual story and ultimately pitch design solutions based on classroom concepts.

16:137:535 ***Usability Evaluation (3)***
Take a deep dive into the ways that systems, products, or services can be evaluated for their usability. Carry out real-life project assignments to apply lessons learned.

16:137:536 ***UXD and Product Design Practicum (3)***
Solve real-world business problems through experiential learning. Working with the MBS faculty and under the supervision of an industry professional, conduct research to uncover hidden patterns, market trends, and other insights. Conduct user experience research to improve user satisfaction and performance. Use market research analysis to analyze data on consumers and competitors. Determine when, where, how, and why the target audience uses the products and services they do. Create and test prototypes. Gain a core toolkit beneficial for a Product Design and UXD career while building an online portfolio.

16:137:537 ***Mobile App Development From Concept to Market (3)***
Get a foundational overview of key concepts, tools, and techniques employed in bringing mobile apps from concept to development in today's mobile market. Design and create functional applications in this boot camp-style course. Learn from a blended team of experts from industry, business, and academia through hands-on learning experiences and case-study evaluation to examine theories and practice of the technology and business strategies employed to achieve commercialization success.

16:137:538 ***Database and Data Warehousing (3)***
Learn the principles of database design and database management. Examine advanced database concepts such as database performance tuning and query optimization, business intelligence and data warehouses, big data, NoSQL, and more.

16:137:539 ***Introduction to Cloud and Big Data Systems (3)***
Learn fundamental concepts and key topics of cloud and big data systems including models and platforms, virtualization, distributed file systems, the MapReduce programming model, big-data processing frameworks (Apache Hadoop and Spark), new database models, analytics platforms, and enabling technologies. Examine recent technological solutions and research in cloud computing and big data, with a focus on bridging the gap between data analytics and data-driven platforms.

16:137:541 ***Enterprise Software Architecture (3)***
Learn about the design and processes contained within modern enterprise software, with special emphasis on systems in use in large organizations such as Oracle EBS, JD Edwards, and SAP. Examine the business processes supported by such systems and the internal data structures that represent them. Learn Agile/SCRUM project management processes. Study disaster recovery, high availability, and inexpensive application scaling. Special emphasis will be given to business process analysis and re-engineering. Complete a project related to enterprise software.

16:137:543 ***Data Storytelling (3)***
This course introduces data as a source for storytelling and teaches students how to build a compelling narrative that drives business decisions using the power of data storytelling. Learn storytelling concepts, narrative theories, and performance techniques to develop data stories from real datasets. Gain insights into how best to design graphs and construct compelling, logically sound, data-driven presentations for varied audiences. Engage with the science of communicating to others for understanding, and to inspire action.

16:137:550 ***Fundamentals of Analytics and Discovery Informatics (3)***
Study modern data analytics techniques within the fields of statistics, machine learning, and information theory. Basic methods include decision trees, covering algorithms, association mining, statistical modeling, linear models, and instance-based learning. Evaluate select case studies of data analytics research projects underway or conducted at Rutgers University, and complete a class project relevant to the data analytics field.

16:137:551 ***Advanced Analytics and Practicum (3)***
Study advanced analytics topics intersecting the fields of data mining, machine learning, and “big-data” with an emphasis on how analytics is used in various industries. Complete a hands-on project designed to impart practical analytics experience and a large project around analytics methodologies. Execute a large project (practicum) in analytics, either research or company-sponsored.

16:137:552 ***Python Methodologies (3)***
Learn to program with one of the most popular programming languages in the world. Study the basics of imperative programming as well as selected areas of computer science, object-oriented programming, and data structures. Learn how to think about how to solve problems in discrete steps like computers do. Examine ideas from Data Science and apply knowledge of computer programming and problem-solving in this area.

16:137:553 ***Business Intelligence with Visual Analytics (3)***
Receive an introduction and hands-on experience in data visualization, visual analytics, and visual data storytelling. Study design principles for creating meaningful displays of quantitative and qualitative data to facilitate managerial decision-making in the field of business analytics. Leverage the power of data visualization to communicate business-relevant implications of analyses. Modules are organized around concepts, tools, and applications, and cover the visual analytics process from beginning to end, from collecting, preparing, and analyzing data to creating data visualizations, dashboards, and stories that share critical business insights. Leverage the analytical capabilities of Tableau, the industry's leading visualization tool, and learn how to use this technology competently.

16:137:554 ***Fundamentals of Sustainability: The Practitioner Perspective -- from Concepts to Transactions (3)***
Explore the evolving nature of sustainability as it relates to the public and private sectors as well as the rate at which businesses are adopting and employing sustainability practices. Examine concepts via four interrelated blocks of instruction that feature guest presenters and experts from the private sector.

16:137:555 ***Concepts in Corporate Sustainability (3)***
Examine the rationale and theories that integrate economic principles and incentives to support market-based approaches to proactive sustainability—giving a rich, historical overview of corporate engagement with regard to the environment. Examine current strategies and frameworks within which companies perform carbon management; current and proposed carbon regulations; tort liability; regulatory compliance; the clean development mechanism credits under the Kyoto Protocol; and major voluntary standards across different global markets. Case studies will be used to illustrate class concepts as applied to corporate sustainability efforts, incorporating elements of business, science, and bottom-line impacts.

16:137:559 ***Linux System Administration (3)***
Examine in detail all aspects of the Linux operating system (kernel, shells, users, groups, processes, etc.), including system installation and configuration (disk partitions, GRUB boot manager, Debian Package Manager, and the Advanced Package Tool [APT] management system); introduction to networking (protocols, IP addresses, Address Resolution Protocol [ARP], subnets and routing, network ports); security (TCP-wrappers, secure shell (SSH); Linux firewalls; packet filtering with iptables (PGP/GPG, tripwire), Network File System (NFS); Lightweight Directory Access Protocol (LDAP), Virtualization; Linux-Windows integration (terminal services, Samba server), Linux programming; Linux clusters (Beowulf); E-MAIL and DNS servers.

16:137:560 ***Fundamentals of Systems Engineering for Engineering Management (3)***
Examine two important aspects of engineering management: engineering management itself and systems engineering using the principles of Model Based Systems Engineering (MBSE). Both aspects tightly relate to Business Analysis (BA). MBSE allows a design team to keep all the aspects of the problem and potential solutions visible and accessible to them, easily grasp the effects of changes made to their solution and easily communicate the current state of the solution without ambiguity to stakeholders and other team members. Systems engineering is a BA discipline found within all engineering fields and is applicable to all work and home activities. Systems engineering/BA goes together with engineering/business management. The principles learned in this course may help you prepare for initial level certification as a business analyst by the International Institute of Business Analysis (IIBA).

16:137:561 ***Essentials of Cybersecurity and Secure Systems (3)***
Learn the differences between threats and vulnerabilities, examples of cybersecurity attacks and events, key industry, and government security standards and frameworks, and requirements and principles for securing

systems early in the system's life cycle. Define security features for a system. Use several MS OS-based software tools for assessing and describing cybersecurity threats and for developing a system security architecture and design. Employ elements of Model-Based Systems Engineering (MBSE).

16:137:563 ***Basics of AI for Science Professionals (3)***
Gain both a conceptual foundation of AI-ML and the practical ability to apply those concepts in carefully curated lab workshops. No technical background is required. Gain deeper insight into the various algorithms, their tunable parameters, and their application in real-world scenarios from business and science. Learn when each algorithm should be used to achieve a business or a scientific goal.

16:137:564 ***Frontend Programming & Development (3)***
In this course, students will learn TypeScript and React, which will power the next generation of front-end technologies. The course will cover React's component-based architecture as well as TypeScript's static typing, interfaces, classes, enhanced tooling, generics, etc., to build robust and scalable web products. The course will cover essential HTML/CSS, such as effective layouts, responsive design, tables, forms, graphics, audio/video, etc. It will also include JavaScript programming concepts such as program structure, functions, data structures, DOM, handling events, cross-browser compatibility, etc.

16:137:565 ***Information Architecture (3)***
This course introduces students to the principles and practices of information architecture (IA) and its role in user experience (UX) design. This course examines the science and art of organizing and structuring content within digital spaces, such as websites, mobile apps, and other information spaces. Focusing on systematic methods and processes, students will learn to analyze, design, and evaluate information spaces to enhance usability and accessibility. Through hands-on projects, students will gain experience in creating intuitive sitemaps, navigation systems, and wireframes that support seamless and efficient user journeys.

16:137:567 ***Cybersecurity Certification (3)***
This course is a certification preparation course with a twist. In the cybersecurity employment world, certifications are important to have. Two of the most sought after entry level certifications in the cybersecurity field are the Google Cybersecurity Certification and the CompTIA Security+ certification.
This prep course is going to lead to you having both. Using the Google mini courses that comprise the Google certification as study materials, CompTIA specific resources and material crafted specifically for the MBS cyber cert course, you will complete your Google Certification by the end of the course and be
ready to sit for the CompTIA Security+ exam. Coverage includes common cyber frameworks, controls, common attacks, assets, risks, vulnerabilities, indicators of compromise, a grounding in networking, tools like SQL and Python programming, malware, phishing, SIEM and IDS tools and much more.

16:137:568 ***Practical Cybersecurity (3)***
This course is a practicum-styled advanced-level course in cybersecurity. It is one part lecture, one part lab, and one part hands-on real-world experience. The course allows students to learn about and utilize popular concepts and tools in Cybersecurity. The six-unit hybrid course will feature hands-on lab work with popular cybersecurity tools as well as in-depth coverage of areas like using LINUX for hacking, Utilizing the Python programming language to create penetration tools, code breaking, and cryptography. The course will familiarize students with popular real-world red team penetration testing tools as well as blue team SIEM and network defense software. This course provides exposure to the tools of cybersecurity in a safe sandbox context. All software and materials will be provided (or created!)

16:137:569 ***Food Safety and Plant Operations (3)***
Receive an overview of concepts, techniques, codes, and federal regulations related to food processing. Examine best practices, hazard analyses, risk-based preventive controls for human food, and tools necessary to analyze and improve core operational capabilities in food safety and plant operations—knowledge that is applicable to a broad range of domains and industries. Study production control, quality management, process design, revenue management, and meeting the federal regulations governing commercial food production.

16:137:570 ***Fundamentals of Personal Care Science (3)***
Learn the basics of all areas of personal care including skincare formulation, hair care science, polymer, humectant, cosmetic actives, regulatory concerns, and marketing strategies. Research products currently in the marketplace and attempt to back-formulate them. Examine how to create personal care products from just an idea through market launch.

16:137:571 ***Product Development and Formulations for Personal Care Science (3)***
Gain hands-on, in-depth knowledge of product development and production in two main cosmetics categories—“rinse-off" products and "leave-on" products. Study three distinct but interconnected topics: raw materials, technologies (i.e., synergistic interaction of raw materials), and the application of the technologies to product development and formulation. Learn real cosmetic science presented in a very practical manner. Adopt the mindset of the cosmetic scientist.

16:137:572 ***Fragrance Applications in Personal Care Science (3)***
Learn how fragrance chemistry is applied to the largest market for fragrances—Personal Care products. Explore the classification of olfactive ingredients, learn how complex fragrances are composed and applied, and examine the mechanisms of fragrance performance.

16:137:573 ***Personal Care Science Applied Laboratory (3)***
Gain hands-on, working knowledge of three categories within personal care science: emulsions, powders, and anhydrous. Create various types of these products and then quantify the physical properties of the finished formulations. Learn in depth what ingredients affect the formulas and how.

16:137:575 ***Food Business Innovation (3)***
Examine the process of research and development of innovative food products. Identify the importance of food product development and the challenges involved in the development of a new food product. Experience the creation of new food products in a real-world research and development facility. Gain a basic understanding of the business innovation strategies, practices, and new product development process in the commercial food industry. Take part in online assignments, projects, and guest web meetings with food industry professionals from leading food companies. Learn how to successfully initiate, organize, and carry out a product development process to better prepare for real-world challenges.

16:137:576 ***Concepts in Global Agriculture (3)***
Take a critical look into the modern food supply chain, the challenges faced by the growing population, and the pressure global economic development will have on industry and consumers.

16:137:577 ***Current Regulations and Standards for Foods in Domestic and International Trade (3)***
Learn about the legal and regulatory systems and principles affecting the production, labeling, and distribution of foods and dietary supplements. Examine key issues, with an emphasis on the complex and evolving frameworks affecting food and dietary supplements. Study the roles played by regulators, legal systems, and lawyers in enforcement, litigation, and crisis management.

16:137:578 ***Chemistry of Food and Natural Products (3)***
Receive a basic overview of the chemistry involved in food and personal care products, including the chemistry of macronutrients (protein, fat, carbohydrates), micronutrients (vitamins, minerals), soap, lotions, and creams. Learn how to connect chemistry with the function, quality, and stability of food and personal care products, as well as those associated with health benefits and regulatory issues. Study product development, quality control, regulation, and marketing of food and personal care products.

16:137:579 ***Global Food Supply and Quality Management (3)***
Examine the global food supply chain and the effort taken in the form of technologies and policies in maintaining quality and improving safety throughout the supply chain. Learn current food industry practices in terms of quality and safety management with the customer and regulatory requirements. Study global quality management systems such as GFSI, BRC, IFS, SQF, and organic quality management. Receive an introduction to Intellectual Property and how that impacts the global food supply.

16:137:580 ***Practical Aspects of Clinical Trial Design/Conduct (3)***
Gain a basic understanding of good clinical practice in the pharmaceutical industry through practical, hands-on experience in the multifaceted area of clinical research. Study the complexity of clinical trials as related to protocol development and implementation, protection of human subjects, "informed consent" regulations, data management and reporting, the use of electronic systems and tools, the process of drug-supply management, and labeling.

16:137:581 ***Statistics in Clinical and Translational Research (3)***
In the modern world we are inundated with data. Statistics is a technology that allows us to process, analyze, interpret, and make decisions based on data. This course is designed to introduce students to the basic concepts of statistics and probability. It will discuss how these concepts are commonly applied to address problems in drug development and biotechnology. The course will emphasize understanding and interpreting experimental results. These are essential skills not only for researchers, but for those on the management and business side of drug/technology discovery, development, and marketing. Use of modern statistical software will allow students to focus more on concepts and ideas rather than mathematical computations.

16:137:582 ***Fundamentals of Regulatory Affairs (3)***
Do you want to learn how to navigate the regulatory landscape in pharmaceuticals? Be introduced to complex and fascinating world of pharmaceutical regulation. You'll learn about the critical role regulatory affairs plays in ensuring the safety, efficacy, and quality of pharmaceutical products, from early drug development stages through post-market surveillance. We'll delve into the drug development process and explore the US FDA regulations and guidelines. By the end of this course, you'll have a solid understanding of the regulatory landscape, equipping you with the knowledge and skills needed for a successful career in the pharmaceutical industry.

16:137:586 ***Cosmetic Quality, Safety and Global Regulation (3)***
In this course, students will learn about global cosmetic regulatory, safety and quality requirements and how they influence cosmetic formulas, claims and packaging. We will examine key constituencies for cosmetic products, including global regulators, lawyers, product and factory inspectors, nongovernmental organizations and the public and how their demands are addressed through the product development process. Topics covered include safety and quality testing, ingredient selection, claim substantiation and sustainability in addition to global regulations. At course completion, students will understand the skills required to achieve and maintain compliance with these requirements throughout the product lifecycle.

This course is intended to complement the introductory and advanced formulation and dermaceutics courses currently offered to provide the students with practical strategies for ingredient selection, manufacturing methods and testing to comply with government and consumer requirements and expectations.

16:137:587 ***Alcoholic Beverage Regulation: Wine, Beer and Spirits (3)***
Examine the legal and regulatory systems that govern the production, labeling, distribution, and sale of alcoholic beverages. Explore key issues in the structure and application of the patchwork of the more than 4,000 alcoholic beverage federal, state, and local laws and regulations in the United States. Receive an introduction to the roles played by the legal systems in interpreting laws and regulations, adjudicating disputes, and advancing policy.

16:137:600 ***Science and Technology Management Capstone (3)***
This project-based course covers the fundamentals of entrepreneurship, intrapreneurship, innovation commercialization, and intellectual property—tying together all academic and business knowledge and skills obtained throughout the process of earning the Master of Business and Science (MBS) degree. Work in teams to analyze technology innovations and create business cases/plans.

16:137:601 ***Special Topics: AI Engineering (3)***
AI is rapidly transforming how software is built and used. While training new models requires deep mathematical and machine learning skillsets, using large language models to empower new capabilities in traditional software does not. This course will focus on the key components of AI-powered software, and how to improve their performance across a variety of applications.

16:137:601 ***Special Topics: Strategic Content Management with WordPress (3)***
This course is an introduction to computer management systems (CMS) with a focus on WordPress which is a widely used content management system. It covers the fundamentals such as managing the WordPress website, as well as utilizing generative artificial intelligence (AI) techniques for content generation. Students will learn how to leverage WordPress plugins, themes, and other essential tools to enhance the website's functionality and aesthetics.

16:137:602 ***Special Topics: Bioinformatics for the Professional Sciences (3)***
Bioinformatics is a multi-disciplinary field combining biology, computer science, and quantitative analysis. As it has matured, its role in the biological and medical world has expanded. It is now commonplace across consumer, personal care, agriculture, tech, wellness, and, of course, biotech and medical sectors to implement bioinformatic projects and tools. Today, all scientists and scientific-adjacent roles can benefit from understanding the role of bioinformatics in R&D.

This course is designed to introduce key concepts and applications of modern bioinformatics to non-computational scientists, with a focus on their practical use in the professional sciences. This course does not assume prior coding experience (although advantageous) and will include a brief introduction to working within the command-line (e.g.,

UNIX/LINUX). We will primarily study and utilize web-based databases and tools to work with biological datasets.

The objective of the course is to understand how to frame biological problems as bioinformatic ones, identify the right tools to implement a solution, and be able to interpret for a variety of audiences. This course alone would not be sufficient to function as a bioinformatician but serves as an introduction to modern bioinformatic frameworks used in industry and will enable a non-bioinformatic scientist or manager to design, collaborate, or evaluate bioinformatic projects. The tools and projects in this course have been selected to closely follow common bioinformatic tasks across the professional sciences.

This course will draw on current, real-world projects and scenarios and emphasize relevant "soft skills" such as scientific communication, project management, and interdisciplinary collaboration in the professional sciences.

16:137:602 ***Special Topics: Guided Practical Experience and Project Based Learning in Food Science (3)***
Through this hands-on, project-based course, apply elements of data science and analytics to a practical project related to the food industry, including areas such as product development and sensory perception, market analytics, food safety and quality, and quality control in food manufacturing and distribution—learning the key specialized skills necessary to advance in the field of food science. Work in teams under the guidance of a course instructor and/or industrial mentor.

16:137:602 ***Special Topics: Regression Analysis (3)***
Learn regression analysis techniques, one of the most widely used statistical techniques across industries. Receive an overview of regression analysis, with a focus on building a greater understanding, theoretical underpinning, and statistical software (R) for applying the regression models and their generalizations. Using the bigger umbrella of generalized linear models, study topics including the design of experiments, logistic and Poisson regression. Examine all aspects of the model-building process using real-life data and statistical software.

16:137:603 ***Special Topics: Dermaceutics (3)***
Receive a comprehensive introduction to skin and drug delivery science. Hear expert speakers share their unique perspectives and experiences in the pharmaceutical and cosmetic industries. Gain knowledge focused on a variety of dermal drug delivery systems from skin biologists, skin absorption scientists, drug permeation kinetics researchers, and field-based clinical insights. Examine topics required for industry professionals to help stay current on formulation technologies, patents, regulations, methods, product development, and commercialization.

16:137:605 ***Special Problems in Science and Business (BA)***

16:137:606 ***Special Topics: Sustainability: Supply Chain Management Green Purchasing (3)***
Explore the application of environmentally responsible supply chain principles including designing supply chain management and procurement schemes that address environmental, social, and ethical considerations in organizational policy development as well as the procurement process. Research the public and private supply chain management and procurement process, green purchasing process, contract design, procurement which promotes low carbon emission considerations and zero waste (avoidance and minimization), social and economic regeneration, civic infrastructure policy, e-procurement applications, and cost-cutting measures derived from life cycling costing modeling. Examine environmental management from a supply chain management perspective through different experiences.

16:137:607 ***Special Topics: Advanced Topics in Personal Care Science (3)***
Delve deeper into important topics discussed in Product Development & Formulations for Personal Care Science (16:137:571). Study new materials, technologies, products, and formulations. Learn about "context" as a key step for technical innovation and new product development. Review critical patents and products with a challenging attitude. This advanced course is a continuation of the Product Development & Formulations for Personal Care Science course.

16:137:608 ***Professional Internship (BA)***
The professional internship is a unique opportunity where the experience is guided by a professionally certified executive coach; the course is designed for students who are completing an internship by conducting an experience directly with an organization or research with a professor on campus, and can count toward business or science credits. Students may register for 1-3 credits.

This course is offered under different course numbers depending on the semester: Fall 16:137:608 Spring 16:137:609 Summer 16:137:610.

16:137:609 ***Professional Internship (BA)***
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This course is offered under different course numbers depending on the semester: Fall 16:137:608 Spring 16:137:609 Summer 16:137:610.

16:137:611 ***Research Internship (1)***
This specialized course is designed for students who are completing an internship by conducting research with a Rutgers University professor and/or researcher. This course can ONLY be counted toward science credits. Course requirements and meetings are determined by the head researcher. Students may register the Research Internship for 1-3 credits.

This course is offered under different course numbers depending on the semester: Fall 16:137:611 Spring 16:137:612 Summer 16:137:613.

16:137:612 ***Research Internship (3)***
This specialized course is designed for students who are completing an internship by conducting research with a Rutgers University professor and/or researcher. This course can ONLY be counted toward science credits. Course requirements and meetings are determined by the head researcher. Students may register the Research Internship for 1-3 credits.

This course is offered under different course numbers depending on the semester: Fall 16:137:611 Spring 16:137:612 Summer 16:137:613.

16:137:613 ***Research Internship (BA)***
This specialized course is designed for students who are completing an internship by conducting research with a Rutgers University professor and/or researcher. This course can ONLY be counted toward science credits. Course requirements and meetings are determined by the head researcher. Students may register the Research Internship for 1-3 credits.

This course is offered under different course numbers depending on the semester: Fall 16:137:611 Spring 16:137:612 Summer 16:137:613.

16:137:615 ***Concepts in Biotechnology and Genomics (3)***
Learn about recent developments in biotechnology and genomics. Study technologies that promise to have a transformative effect on science, human health, and the environment through specific applications in medicine, agriculture, microbiology, and the environmental sciences.

16:137:616 ***NextGen Biotechnology and Genomics (3)***
Gain detailed insight into a select number of emerging technologies. Learn about the relationship between scientific discovery and application to identify specific areas of interest for your academic and professional career through an integrated, cross-disciplinary approach that characterizes the Master of Business and Science degree. Develop a group project to highlight a novel technology and its applications.

16:137:617 ***Bioinformatics: Tools for Genomic Analysis (3)***
Solve biological problems using bioinformatic approaches in this applications-based course. Evaluate data analysis processes in the context of drug discovery, disease characterization, and phylogenetics—learning to use existing bioinformatics analyses packages in both lecture and lab format. The techniques discussed and applied in this course are applicable to many areas of biology including agricultural, natural, and environmental sciences.

16:137:650 ***Topics in Management (3)***
This course allows students participating in Rutgers Master of Business and Science (MBS) degree program to take courses offered by other departments, schools, and programs throughout Rutgers University. To obtain credit, there will be a required assessment portion (if not already included in the course).

16:137:651 ***Topics in Management and Professional Development (3)***
This course allows students participating in Rutgers Master of Business and Science (MBS) degree program to take courses offered by other departments, schools, and programs throughout Rutgers University. To obtain credit, there will be a required assessment portion (if not already included in the course).

16:137:652 ***Topics in Management (BA)***
This course allows students participating in Rutgers Master of Business and Science (MBS) degree program to take courses offered by other departments, schools, and programs throughout Rutgers University. To obtain credit, there will be a required assessment portion (if not already included in the course).

16:137:653 *Externship Experience I (3)*
Gain real, hands-on work experience at some of the world's leading corporations while also receiving specialized instruction on topics including leadership, teamwork, problem-solving, and giving effective presentations. Under the guidance of an MBS academic advisor and an industry professional, work on a corporate-sponsored small project in teams ranging from two to nine students. Attend a classroom component to develop soft skills.

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16:137:800 *Matriculation Continued (0)*
Coming soon.

Business and Science 137, 196, 345 (SGS-BUSSCI)

Admission Deadlines

Admission Deadlines

For best consideration apply by these dates

Fall - June 1

Spring - November 15

Summer - March 1

Business and Science 137, 196, 345 (SGS-BUSSCI)

Tracks (3 Tracks)

Tracks (3 Tracks)

196 Computer and Information Sciences

The Master of Business and Science (M.B.S.) Computer and Information Sciences track combines business courses with a concentration in Computer and Information Sciences (CIS). CIS concentrations include Analytics, Cybersecurity, User Experience Design, Product Design, Information Technology, and more.

In addition to a uniquely blended degree, students have the opportunity to take advantage of executive coaching, networking events, mentorships, internships and externships, and hands-on experiential learning.

Students can take classes online, in-person/hybrid, and on a part-time or full-time basis. Many courses are available in the evening to accommodate working professionals.

345 Business and Science-Engineering Management

The Master of Business and Science (M.B.S.) degree Engineering Management track combines business courses with a concentration within pathways like Quality and Reliability Engineering, Product and Packaging Engineering, Pharmaceutical Engineering, and more.

In addition to a uniquely blended degree, students have the opportunity to take advantage of executive coaching, networking events, mentorships, internships and externships, and hands-on experiential learning.

Students can take classes online, in-person/hybrid, and on a part-time or full-time basis. Many courses are available in the evening to accommodate working professionals.

Life Sciences

The Master of Business and Science (M.B.S.) degree Life Sciences track combines business courses with a concentration within Personal Care Science, Drug Discovery and Development, Biotechnology and Genomics, Global Food Technology and Innovation, and more.

In addition to a uniquely blended degree, students have the opportunity to take advantage of executive coaching, networking events, mentorships, internships and externships, and hands-on experiential learning.

Students can take classes online, in-person/hybrid, and on a part-time or full-time basis. Many courses are available in the evening to accommodate working professionals.

Chemical and Biochemical Engineering 155 (SGS-CHEMBCE)

Chemical and Biochemical Engineering 155

Programs Offered: M.S./Ph.D in Chemical and Biochemical Engineering, M.E. in Pharmaceutical Engineering

Please visit the Chemical and Biochemical Engineering website.

C-226, School of Engineering 98 Brett Road, Busch

We provide a comprehensive, modern chemical engineering graduate program with exciting and research efforts in core areas such as nanoscience and nanotechnology, transport phenomena, reaction engineering, thermodynamics and molecular simulations, separations, and process systems engineering along with extensive cross-disciplinary activities in bioengineering and biotechnology and polymer science and materials engineering.

The department is also the first of its kind in the country to offer a full spectrum of graduate training and research in the emerging area of pharmaceutical engineering.

Students in the program may pursue a Master of Science (M.S.) or Doctor of Philosophy (Ph.D.) in Chemical and Biochemical Engineering or a Master of Engineering (M.E.) in Pharmaceutical Engineering. Graduates of the department pursue successful careers in a wide variety of industrial settings ranging from pharmaceuticals, biotechnology, advanced materials, energy, and chemicals. Doctoral graduates also pursue academic careers.

Research

The program provides an intellectual climate for graduate students to conduct high impact cutting-edge research. It comprises 21 core chemical engineering and 20 interdisciplinary faculty members from various disciplines in engineering, physical and biological sciences. We are constantly looking to expand our teaching and scholarly capabilities to remain at the cutting edge of the evolving chemical engineering discipline. Our annual research expenditures exceed $7 million dollars.

Faculty

Ioannis P Androulakis, Ph.D., Purdue

Tewodros Asefa, Ph.D., Toronto

Jeffrey Boyd, Ph.D., Utah State

Helen M Buettner, Ph.D., Pennsylvania

Gerardo Callegari, Ph.D., Buenos Aires

Fuat E Celik, Ph.D., California (Berkeley)

Shishir P. S. Chundawat, Ph.D., Michigan

Richard Cimino, Ph.D., Rutgers

Nicholas Corrente, Ph.D., Rutgers

Alberto M Cuitino, Ph.D., Brown

Gregory Dignon, Ph.D., Lehigh

G Charles Dismukes, Ph.D., Wisconsin (Madison)

German Drazer, Ph.D., Universidad de Cuyo

Meenakshi Dutt, Ph.D., Duke

Panagiotis G Georgopoulos, Ph.D., California Institute of Technology

Benjamin J Glasser, Ph.D., Princeton

Ashutosh Goel, Ph.D., Averio

Adam J. Gormley, Ph.D., Utah

Ashley Guo, Ph.D., Chicago

Diane Hildebrandt, Ph.D., Witwatersrand

Shantenu Jha, Ph.D., Syracuse

KiBum Lee, Ph.D., Northwestern

Bozena Michniak-Kohn, Ph.D., De Montfort

Tamara Minko, Ph.D., Ukraine

Fernando Muzzio, Ph.D., Massachusetts (Amherst)

Alexander V Neimark, Ph.D., Institute of Chemical Industry, Moscow

Thomas Nosker, Ph.D., Rutgers

Wilma K. Olson, Ph.D., Stanford

Biju Parekkadan, Ph.D., Harvard

Henrik Pedersen, Ph.D., Yale

Rohit Ramachandran, Ph.D., Imperial College London

Anurag Rathore, Ph.D., Yale

Richard E Riman, Ph.D., Massachusetts Institute of Technology

Charles M Roth, Ph.D., Delaware

Benjamin Schuster, Ph.D., Johns Hopkins

James V. Scicolone, Ph.D., New Jersey Institute of Technology

Nina C Shapley, Ph.D., Massachusetts Institute of Technology

Troy Shinbrot, Ph.D., Maryland

David I Shreiber, Ph.D., Minnesota

Maria S Tomassone, Ph.D., Northeastern

Ravendra Singh, Ph.D., Technical (Denmark)

Paul Takhistov, Ph.D., National Technical (Ukraine)

George Tsilomelekis, Ph.D., Patras

Valerie Tutwiler, Ph.D., Drexel

Jason Yang, Ph.D., Virginia

Martin Yarmush, Ph.D., Massachusetts Institute of Technology

Haoran Zhang, Ph.D., Tufts

Course Descriptions

Course Descriptions

16:155:501 ***Advanced Fluid Mechanics (3)***
This course introduces the fundamentals of momentum transport with a focus on incompressible fluid mechanics. Students derive and apply the mass and momentum conservation equations to model flows and predict how velocity, pressure, and forces vary in space and time. Applications in biomedical, environmental, and industrial systems are emphasized, providing essential preparation for advanced chemical engineering study.
Prerequisites: 14:155:303 - undergraduate fluid mechanics or equivalent.

16:155:502 ***Advanced Heat and Mass Transport (3)***
Addresses energy balances derived from thermodynamic principles, covering conduction, convection, diffusion, and interphase transport phenomena.
Prerequisites: 14:155:304 - undergraduate heat and mass transport or equivalent.

16:155:507*Analytical and Data-driven Approaches for Modeling and Simulation (3)*
The course will cover the fundamentals of formulating models for advanced engineering problems or systems, using either analytical or data-driven approaches. The course will also cover numerical approaches to simulate these models, aiming to gain insight into the dynamics and characteristics of systems of interest. Topics covered in the course include Linear Algebra, Differential Equations, Probability, and Statistics.
Prerequisites: Requires calculus through ordinary differential equations; recommended 14:155:307 Computational Methods in Chemical Engineering or equivalent.

16:155:511 ***Advanced Thermodynamics and Statistical Mechanics (3)***
This course presents the fundamentals of thermodynamics and statistical mechanics. Emphasis is placed on the foundations and methods of statistical mechanics, how microscopic molecular interactions are related with macroscopic thermodynamics, and molecular thermodynamic theories for fluids and fluid phase equilibrium. Quantitative thermodynamic models for a variety of systems relevant to a broad range of practical applications are discussed, including phase equilibrium and thermophysical properties of fluid mixtures.
Prerequisites: 14:155:309 - Undergraduate engineering thermodynamics or equivalent.

16:155:531 ***Biochemical Engineering (3)***
This course includes (1) introduction to basics of biochemistry, molecular biology, and microbiology with applications in biochemical engineering, (2) discussion of how biochemical engineering is used for the analysis, control, and development of diverse industrial bioprocesses, (3) quantitative and problem-solving approaches to solve biochemical engineering problems, and (4) introduction to emerging techniques expanding the capabilities of biochemical engineering.
Prerequisites: 14:155:210 Biological Foundations of Chemical Engineering or equivalent.

16:155:532 ***Engineering of Sugars: Glycosciences in Health, Energy, and Materials (3)***
This course introduces fundamental concepts in glycosciences (i.e., science & technology of carbohydrates/glycans) and glycoengineering. Glycans are the most abundant biomolecules that play critical metabolic, structural, and functional roles in living systems. We explore how this discipline and associated biotechnologies offer solutions

to modern societal challenges in health, energy, and materials. We will survey basic principles before discussing cutting-edge interdisciplinary applications for personalized medicine, biologics, food/nutrition, biomaterials, biofuels, and bioproducts biotechnology and biomanufacturing.

16:155:533 ***Bioseparations (3)***
This course introduces commonly used unit operations in biological processes for separation and purification of various biomolecules and biomaterials and how the unit operations can be assembled together to meet the need of different biological systems. Quantitative analysis and scale-up of the bioseparation operations are highlighted. The course also discusses application of bioseparation principles in realistic industrial processes and associated examples.

16:155:534 ***Biomolecular Engineering (3)***

16:155:535 ***Biochemical Engineering Lab (3)***
This laboratory course provides hands-on experience for basic biochemical engineering lab practices. The course comprises a series of topics popularly used in biotechnology industries. For each topic, there is an in-classroom lecture that covers the basic concept introduction, protocol explanation, and expected experimental results. The lecture is followed by a lab section that implements the experiment of the topic. Results analysis and discussion are emphasized and included in each topic's report.

16:155:541 ***Pharmaceutical Materials Engineering (3)***
This course will offer an introduction and basic fundamental knowledge regarding pharmaceutical materials engineering as applied to designing and optimizing pharmaceutical compounds/materials, products, and processes. The course will focus on the development, production, characterization and usage of pharmaceutical materials/nanomaterials. The course will also examine the relationship between pharmaceutical materials and pharmaceutical products. It will provide information on fundamental aspects of current state-of-the-art synthetic methods for materials, nanomaterials, nanomedicines, their assembly and formulations. The course also covers fundamental principles of key characterization methods and various structural-property relationships as relevant to pharmaceutical manufacturing and engineering. Connections will be made to the engineering of consumer products and foods where relevant.

16:155:544 ***Drug Delivery Fundamentals and Applications (3)***
This course will discuss the engineering of novel pharmaceutical delivery systems with enhanced efficacy and safety profiles, with an emphasis on the design and application of materials that overcome drug delivery barriers or challenges. Topics will include drug delivery fundamentals and transport mechanisms, materials and formulations for drug delivery, and applications

16:155:545 ***Making Medicine: Manufacturing Active Pharmaceutical Ingredients (3)***
This course is an introduction to the making of medicines with a focus on manufacturing of drug substances or Active Pharmaceutical Ingredients, APIs (which are combined with excipients (non-actives) to make drug products). It explores pharmaceutical engineering principles for API production, with a primary focus on chemical synthesis and an introduction to biological processes using cell lines. Key industrial topics include separation, distillation, crystallization, filtration, chromatography, milling, lyophilization, drying, and sterilization. Starting with a manufacturing overview, the curriculum delves into specific processing steps and examines the regulatory interplay between the FDA and pharmaceutical companies for new and generic drugs.

16:155:546 ***Pharmaceutical Unit Operations (3)***
Addresses various unit operations involved in pharmaceutical manufacturing of drug products.

16:155:547 ***Statistical Analysis and Design of Pharmaceutical Operations (3)***
An introductory course on statistical analysis and experimental design methodologies, with a primary emphasis on practical applications to pharmaceutical processes. The course will delve into fundamental statistical concepts and methods, utilizing pharmaceutical product and process development scenarios, routine in-process and finished product testing, and failure investigations to illustrate their relevance. Regulatory requirements for testing samples, sampling plans, tablet and capsule assays, dissolution, and bioavailability tests will be highlighted through references to FDA and ICH documentation as well as recent archival literature. The course will utilize Excel and Matlab statistical software packages and toolkits. Topics covered include probability distribution functions, inferential methods of analysis, n-way ANOVA, factorial and fractional-factorial designs, response surface, mixture and optimal experimental designs.

16:155:549 ***Medicine in the Body: Pharmaceutical Engineering of Patient–Medicine Interactions (3)***
The course discusses the application of pharmaceutical engineering principles to medicines and how they interact with a patient. It addresses challenges in drug development, focusing on pharmacokinetics, pharmacodynamics, and transport processes within the body. Students will learn to model pharmaceutical processes in the patient and interpret experimental data regarding bioavailability and drug delivery. Core topics include routes of administration, ADME kinetics (absorption, distribution, metabolism, excretion), and compartmental modeling. The curriculum covers the design of immediate, delayed, and sustained release profiles. Additionally, the course examines the broader context of the pharmaceutical industry, including the societal roles of the FDA and pharmaceutical companies.

16:155:571 ***Sustainable, Renewable, and Clean Energy (3)***
This course is primarily intended to provide a chemical engineering and scientific perspective on conventional energy resources, energy challenges, and efforts in developing future, sustainable, clean, and renewable energy sources, devices, and systems. This course will start with an introduction and fundamental knowledge of available energy resources and fossil fuels. It will follow with the challenges we face related to energy; the current state-of-the-art in energy production; various energy resources and how they work; sustainable methods being developed for the generation of various clean and renewable energy sources; and the design and optimization of materials, biomass, chemical products, and processes that enable energy conservation

16:155:588/589 ***Special Problems in Chemical and Biochemical Engineering (up to 3)***
Individual research project under a faculty advisor; up to 3 credits apply to non-thesis M.S. degree.

16:155:601/602 ***Graduate Seminar (1)***
Graduate-level seminar for research presentation and professional development.

16:155:605 ***Professional and Instructional Development for Graduate Students in Engineering (1)***
Developmental course for Ph.D. students.

16:155:611/612 ***Practical Training (up to 6)***
Industrial internship or practical training in chemical and biochemical engineering.

16:155:701/702 ***Thesis/Dissertation Research (variable credits)***
Research credits for M.S. thesis or Ph.D. dissertation work.

Chemical and Biochemical Engineering 155 (SGS-CHEMBCE)

M.S. Degree Requirements

M.S. Degree Requirements

M.S. in Chemical and Biochemical Engineering

Non-Thesis Option

30 credits total

5 core courses:

- 155:501 Advanced Fluid Mechanics
- 155:507 Analytical & Data-Driven Approaches for Modeling and Simulation
- 155:511 Advanced Thermodynamics
- 155:502 Advanced Heat and Mass Transport
- 155:514 Advanced Kinetics and Reaction Engineering

5 electives

- At least **2 must be CBE electives**
- Encouraged to take a **"broadening elective"** (independent study, internship, or pedagogy course)

GPA Requirement: 3.0 minimum; No more than **2 grades below B** in core courses, **3 total maximum**

Thesis Option

30 credits total, including 24 credits of coursework

- Same **5 core courses** as above
- **3 electives** (encouraged to take broadening elective)
- **6 credits of research** (155:701/702 M.S. Thesis & Defense)
- Must enroll in **Graduate Seminar (155:601/602)** every semester

GPA Requirement: same as above

Chemical and Biochemical Engineering 155 (SGS-CHEMBCE)

M.E. Degree Requirements

M.E. Degree Requirements

M.E. in Pharmaceutical Engineering

30 credits total

Any 5 core courses from:

- 155:541 Pharmaceutical Materials Engineering

- 155:544 Drug Delivery Fundamentals and Applications
- 155:545 Making Medicine: Manufacturing Active Pharmaceutical Ingredients
- 155:546 Pharmaceutical Unit Operations
- 155:547 Statistical Analysis & Design of Pharmaceutical Operations
- 155:549 Medicine in the Body: Patient–Medicine Interactions

5 electives

- At least 2 must be CBE or listed on the PharmaE program website
- Encouraged to take broadening electives as described above

GPA Requirement: same as above

Chemical and Biochemical Engineering 155 (SGS-CHEMBCE)

Ph.D. Degree Requirements

Ph.D. Degree Requirements

Ph.D. in Chemical and Biochemical Engineering

72 credits total, including 30 credits of coursework

5 core courses

- 155:501 Advanced Fluid Mechanics
- 155:507 Analytical & Data-Driven Approaches for Modeling and Simulation
- 155:511 Advanced Thermodynamics
- 155:502 Advanced Heat and Mass Transport
- 155:514 Advanced Kinetics and Reaction Engineering

Electives and developmental courses

- 5 Electives (technical, aligned with research interests)
- 155:605 Professional and Instructional Development for Graduate Students in Engineering
- 155:601/602 Graduate Seminar (each semester)

Research Credits

- 24 credits of 155:701/702 Ph.D. Research (more can be taken, but total ≤72 credits)

GPA Requirement: 3.0 minimum; No more than **1 grade below B** in core courses

Preliminary Exam

End of 1st year (May) after completing core courses

- Choose one journal papers to review
- 15 min presentation + 15 min Q&A

Ph.D. Proposal & Qualifying Exam

Before end of 3rd year of graduate study

- Written research proposal + 30-minute public defense
- Passing advances to Ph.D. candidacy

Dissertation Defense

Expected completion: 5-6 years (max 7 years)

Chemistry and Chemical Biology 160 (SGS-CHEMCB)

CHEMISTRY AND CHEMICAL BIOLOGY 160

Programs Offered: M.S./Ph.D.

Please visit the Chemistry and Chemical Biology website here.

The Department of Chemistry & Chemical Biology offers rigorous programs of graduate study leading to either a Ph.D. degree or an M.S. (with or without research thesis) degree. The Ph.D. curriculum balances directed research with coursework to prepare our graduates for careers in industry and academia whereas the M.S. program is designed to serve the needs of industrial chemists seeking to broaden and enrich their knowledge-base.

Regardless of degree program or area of specialization, graduate students begin with lecture courses that lay the foundation for intellectual development in their chosen area. Students then shift their focus to research projects under the direction of their research advisors, culminating with a thesis or dissertation.

Financial support is guaranteed for all Ph.D. candidates in good academic standing and may come from a variety of sources including:

- Research assistantships
- Teaching assistantships
- A variety of fellowships

Students desiring more information about how to prepare for, and succeed in, graduate school may wish to consult the online resources provided by the American Chemical Society.

Faculty

Edward Arnold, Ph.D., Cornell

Tewodros Asefa, Ph.D., Toronto

Jean Baum, Ph.D.,California (Berkeley)

Robert Boikess, Ph.D., Columbia

John Brennan, Ph.D., California (Berkeley)

Kenneth Breslauer, Ph.D., Yale

Brian Buckley, Ph.D., North Carolina

Stephen Burley, Ph.D., Oxford

Fuat Celik, Ph.D., California (Berkeley)

G. Charles Dismukes, Ph.D., Wisconsin

Richard Ebright, Ph.D., Harvard

Laura Fabris, Ph.D., Padova (Italy)

Paul Falkowski, Ph.D., British Columbia

Eric Garfunkel, Ph.D., California (Berkeley)

Alan Goldman, Ph.D., Columbia

Adam Gormley, Ph.D., Utah

Martha Greenblatt, Ph.D., New York

Yuwei Gu, B.S., Tsinghua; Ph.D., Massachusetts Institute of Technology

Eugene Hall, Ph.D., Institute

Jane Hinch, Ph.D., Cambridge

Enver Izgu, Ph.D., Minnesota

Leslie Jimenez, Ph.D., California (Los Angeles)

Sagar Khare, Ph.D., North Carolina (Chapel Hill)

Spencer Knapp, Ph.D., Cornell

Arkadiusz (Arek) Kulczyk, Ph.D., Cambridge

Jeehiun Lee, Ph.D., Harvard

KiBum Lee, Ph. D., Northwestern

Mark Lipke, Ph.D., California (Berkeley)

Bozena Michniak-Kohn, Ph.D., Leicester Polytechnic

Alexandre Morozov, Ph.D., Washington

Andrew Nieuwkoop, Ph.D., Illinois (Urbana)

Deirdre O'Carroll, Cork (Ireland)

Wilma Olson, Ph.D., Stanford

Daniel Pilch, Ph.D., California (Berkeley)

Richard Remsing, Ph.D., Maryland

Heinz Roth, Ph.D., Cologne

Zheng Shi, Ph.D., Pennsylvania

Ann Stock, Ph.D., California (Berkeley)

Kate Waldie, Ph.D., Stanford

Lu Wang, Ph.D., Wisconsin (Madison)

Ralf Warmuth, Ph.D., Johann Wolfgang Goethe

Lawrence Williams, Ph.D., Arizona

Weiwei Xie, Ph.D., Iowa

Darrin York, Ph.D., Toronto

Jianyuan Zhang, Ph.D., Virginia

X. F. Steven Zheng

Degree Requirements

Degree Requirements

For more information, please see the Graduate Programs page on the School of Graduate Studies website.

Chemistry and Chemical Biology 160 (SGS-CHEMCB)

Course Descriptions

Course Descriptions

16:160:501 ***Chemistry of Heterocyclic Compounds (3)***
Covers p-deficient (pyridine type) and p-excessive (pyrrole type) heterocyclic compounds.

16:160:529 ***Molecular Spectroscopy (3)***
Principles of electronic and vibrational spectroscopy of polyatomic molecules. Emphasis on the quantum-mechanical basis of the spectra and the ways in which spectra yield information about molecular properties.
Prerequisite: 16:160:521. Corequisite: 16:160:532.

16:160:531 ***Photochemistry (3)***
Absorption of light; formation of electronically excited states and their subsequent chemical reactions; fluorescence, phosphorescence, and quantum yields; applications of Emphasis on synthesis, reactivity, rearrangements, utility (in general organic synthesis), and biological activity.
Prerequisites: 01:160:307, 308, or equivalent.

16:160:503 ***Modern Synthetic Organic Chemistry (3)***
Survey of preparative methods in organic chemistry and their application to the synthesis of complex molecules.
Prerequisite: one year of undergraduate organic chemistry.

16:160:504 ***Recent Advances in Organic Chemistry (3)***
Selected newer topics discussed at an advanced level.
Prerequisite: 16:160:511.

16:160:506 ***Advanced Organic Synthesis 16:160:506 Advanced Organic Synthesis (3)***
The logic and art of complex natural products synthesis and of modern process synthesis.
Prerequisite: 16:160:503.

16:160:509 ***Organic Chemistry of High Polymers (3)***
Introduction to the synthesis and reactions of macromolecules, free-radical polymerization, stereospecific polymerization, and stepwise polymerization.
Prerequisites: 01:160:307, 308 and 327, 328, or equivalent.

16:160:510 ***Introduction to Molecular Modeling (3)***
Introduction to the use of computer-assisted molecular modeling techniques for the study of chemical problems; lectures on theoretical principles; instruction in use of modern modeling programs; computer projects involving solution of chemical problems.
Prerequisites: 01:160:307, 308, 323, 324, or equivalent.

16:160:511 ***Advanced Organic Chemistry I (3)***
Advanced survey of organic chemistry; molecular orbital theory, orbital symmetry correlations, structure and stereochemistry of organic molecules, chemistry of reactive intermediates, structure-reactivity relationships, molecular rearrangements.
Prerequisites: 01:160:307, 308, or equivalent.

16:160:512 ***Advanced Organic Chemistry II (3)***
Advanced survey of organic chemistry; molecular orbital theory, orbital symmetry correlations, structure and stereochemistry of organic molecules, chemistry of reactive intermediates, structure-reactivity relationships, molecular rearrangements.
Prerequisites: 01:160:307, 308, or equivalent.

16:160:513 ***Advanced Organic Chemistry III (3)***
Advanced survey of organic chemistry; molecular orbital theory, orbital symmetry correlations, structure and stereochemistry of organic molecules, chemistry of reactive intermediates, structure-reactivity relationships, molecular rearrangements.
Prerequisites: 01:160:307, 308, or equivalent.

16:160:515 ***Interpretation of Organic Spectra (3)***
Use of nuclear magnetic resonance, mass spectrometry, and infrared and ultraviolet spectroscopy for the identification of organic compounds and the elucidation of organic reaction mechanisms.
Prerequisites: 01:160:307,308, or equivalent.

16:160:518 ***Bioorganic Mechanisms (3)***
Catalysis of organic reactions that are model systems for enzymatic processes. Emphasis on mechanisms of enzyme-catalyzed reactions.
Prerequisites: 01:160:307, 308 and 327, 328, or equivalent; 16:160:511.

16:160:520 ***Mathematical Methods of Chemistry (3)***
Selected aspects of infinite series, vectors and matrices, functions of a complex variable, differential equations, and integral transforms as used in chemistry.

16:160:521 ***Atomic and Molecular Structure (3)***
Introduction to the ideas of quantum chemistry and their application to the structure and properties of atoms and molecules.
Prerequisites: 01:160:327, 328, or equivalent.

16:160:522 ***Statistical Mechanics (3)***
Basic concepts and methods of equilibrium statistical mechanics. Applications to systems and phenomena of chemical interest, including ideal and real gases, chemical equilibria, phase transitions, classical liquids, and polymer solutions.
Prerequisites: 01:160:327, 328, or equivalent.

16:160:525 ***Chemical Thermodynamics (3)***
Principles of classical and statistical thermodynamics and their application to the study of homogeneous and heterogeneous equilibria.
Prerequisites: 01:160:327, 328, or equivalent.

16:160:526 ***Physical Chemistry of Solutions (3)***
Thermodynamics and statistical thermodynamic properties of solutions; Brownian motion and diffusion; Debye-Huckel theory of electrolytes.
Prerequisite: 16:160:525.

16:160:527 ***Physical Chemistry of High Polymers (3)***
Introduction to the physical chemistry of macromolecules aimed at understanding relations between molecular structure and physical properties of high polymers.
Prerequisites: 01:160:327,328, or equivalent.

16:160:528 ***Physical Chemistry of High Polymers (3)***
Introduction to the physical chemistry of macromolecules aimed at understanding relations between molecular structure and physical properties of high polymers.
Prerequisites: 01:160:327,328, or equivalent.

16:160:532 ***Quantum Mechanics (3)***
Introduction to the principles of quantum mechanics with emphasis on operator approaches and the angular momentum problem. Approximate methods and application to simple examples.
Prerequisites: 16:160:520, 521.

16:160:533 ***Chemical Applications of Group Theory (3)***
Aspects and consequences of molecular symmetry; point groups and character tables; group theory and quantum mechanics; symmetry aspects of the electronic structure in organic and inorganic molecules; selection rules for electronic and vibrational spectroscopy; ligand field theory.
Prerequisite: 16:160:521 or equivalent.

16:160:534 ***Chemical Kinetics (3)***
Chemical reaction rates, theories of molecular transformations, and the elucidation of reaction mechanisms.
Prerequisites: 01:160:327,328, or equivalent.

16:160:536 ***Crystal and Molecular Structure I, II (3,3)***
Symmetry of crystals; point and space groups. Determination of crystal structure by X-ray diffraction. Analysis of X-ray photographic and diffractometer data and its processing.
Prerequisites: 01:160:327, 328, or equivalent. See also 16:635:564.

16:160:537 ***Biophysical Chemistry I (3)***
Introduction to the physical chemistry of proteins, nucleic acids, and their complexes. Forces that determine biopolymer structure. Principles of protein and nucleic acid structure. Transitions and interactions of biopolymers.
Prerequisites: 01:160:327, 328, or equivalent.

16:160:538 ***Biophysical Chemistry II (3)***
Introduction to biophysical techniques used in the study of structure and function. Theoretical methods of macromolecular analysis. Methods of macromolecular engineering and design.
Prerequisite: 16:160:537 or equivalent.

16:160:539 ***Protein Engineering and Design (3)***
Protein structure. Protein structure-function relationships. Protein engineering methods. Protein engineering to modify the properties of existing useful proteins (e.g., ligand recognition, catalysis, allostery, stability) and to create new useful proteins. Catalytic antibodies. Semisynthetic proteins. Denovo protein design.
Prerequisites: 01:160:307, 308 and 11:115:403, 404, or equivalent, or permission of instructor; 16:160:537 strongly recommended.

16:160:540 ***Single-Crystal X-Ray Analysis Laboratory (1)***
Laboratory course to accompany 16:160:536. Characterization of crystals and introduction to diffractometry.
Prerequisite: 16:160:535. Corequisite: 16:160:536.

16:160:541-542 ***Special Topics in Physical Chemistry (BA, BA)***
Advanced topics of current interest.
Prerequisites: 01:160:327,328, or equivalent.

16:160:544 ***Special Topics in Biological Chemistry (1-3 BA)***
This is a single course with two codes, offered to both advanced undergraduate students (Chem 482) and graduate students (Chem 544). Although chemical biology and biological chemistry are not identical, they are two

intermingled fields, and this course will focus on using “chemical biology” for the most part. Research in chemical biology aims to investigate, manipulate, or mimic biological systems by means of molecular tools. Design principles of such research are geared towards understanding a complex biological phenomenon or developing platforms that can display functions useful for biotechnology or medicine. This course will teach the fundamentals (both theory and technique) of chemical biology and the research strategies from a chemist’s perspective.
Prerequisites: 01:160:308 or 01:160:316; 11:115:403 or 01:694:407, or permission from instructor

16:160:546 ***Chemical Separations (3)***
Principles of chemical separations by various chromatographic techniques.
Prerequisite: 01:160:348 or equivalent.

16:160:548 ***Special Analytical Methods (3)***
Advanced topics in analytical chemistry.
Prerequisite: 01:160:348 or equivalent.

16:160:549 ***Electroanalytical Chemistry (3)***
Application of electrochemical principles and techniques, including modern polarographic methods, voltammetry, potentiometry, and chronopotentiometry. ***Prerequisite: 01:160:348 or equivalent.***

16:150:550 ***Computational Chemistry (3)***
One-semester physical chemistry course, covering the theory and practice of computational explorations in chemistry and biochemistry.
Prerequisite: 01:160:327/328, 341/342, or equivalent.

16:160:551 ***Analytical Spectroscopy (3)***
Theory of spectroscopy and spectrophotometry, including the analytical applications of spectrochemical methods.
Prerequisite: 01:160:348 or equivalent.

16:160:571 ***Advanced Inorganic Chemistry (3)***
Survey of bonding, electronic-structural, and magnetic properties of transition metal complexes, followed by a survey of the kinetics and mechanisms by which such materials undergo substitution, isomerization, and redox reactions.
Prerequisite: 01:160:371 or equivalent.

16:160:575 ***Principles of Organometallic Chemistry (3)***
Detailed survey of the mechanisms of organometallic reactions.
Prerequisites: 01:160:307, 308, 371, or equivalent.

16:160:576 ***Bioinorganic Chemistry (3)***
Spectroscopic, chemical, and other properties of metal-containing biological systems such as hemoglobin, vitamin B12, and carboxypeptidase.
Prerequisite: 01:160:371 or equivalent.

16:160:577 ***Solid-State Chemistry (3)***
Relation between crystal structure, bonding and physical properties of solids, imperfections in solids; nonstoichiometric compounds; electronic and magnetic properties of various types of solids; transformation in solids; solid-state reactions; crystal growth; solid-state electrochemistry.
Prerequisites: 01:160:371, 421, or equivalent.

16:160:579 ***Special Topics in Inorganic Chemistry (BA)***
Advanced topics of current interest.
Prerequisite: 01:160:371 or equivalent.

16:160:580 ***Structural Biology, Structural Biophysics, and Chemical Biology of Transcription (3)***
Structure and mechanism.
Prerequisites: 01:160:305, 306, 307, 308, 315, 316, 323, 324, 327, 328, 342, or equivalent.

16:160:582 ***Chemical Biology (3)***
Chemical biology is an emerging and exciting field at the interface of chemistry and biology. Research in chemical biology aims to investigate, manipulate, or mimic biological systems by means of molecular tools. Design principles of such research are geared towards understanding a complex biological phenomenon or developing platforms that can display functions useful for biotechnology or medicine. This course will teach the fundamentals (both theory and technique) of chemical biology and the research strategies from a chemist's perspective.
01:160:308 or 01:160:316; 11:115:403 or 01:694:407, or permission from instructor.

16:160:601-602 ***Independent Studies in Chemistry (BA)***
Individualized instruction supervised by a faculty member.

16:160:603 ***Introduction to Research (1)***
Introduction to doctoral and postdoctoral research in chemistry. Identification of research problems. Presentation of research results. Use of chemical literature. Research proposals and funding. Research ethics.
Enrollment restricted to first year Ph.D. students.

16:160:605 ***Laboratory Rotation in Chemistry I, II (BA)***
Introduction to the techniques of chemical research through participation in research projects of selected members of the graduate faculty.
Enrollment restricted to Ph.D. students. No more than a total of 6 credits of laboratory rotation can be earned.

16:160:606 ***Laboratory Rotation in Chemistry I, II (BA)***
Introduction to the techniques of chemical research through participation in research projects of selected members of the graduate faculty.
Enrollment restricted to Ph.D. students. No more than a total of 6 credits of laboratory rotation can be earned.

16:160:607-608 ***Research Colloquium in Chemistry (1)***
Students attend weekly lectures by visiting scientists on current research in chemistry and chemical biology; a research paper is required on one or more of the topics covered.

16:160:611 ***Seminar in Chemistry [CARL] (1)***
Student seminars on out of field research topics in chemistry.
Enrollment restricted to second year Ph.D. candidates.

16:160:612 ***Seminar in Chemistry [IFRP] (1)***
Student seminars on in field research topics in chemistry.
Enrollment restricted to second year Ph.D. candidates.

16:160:701-702 ***Research in Chemistry (BA)***

Graduate Research

Graduate Research

All Ph.D. students and many M.S. students conduct original research under the direction of a faculty advisor as a major component of their studies. Research efforts in the department span a broad range of topics of current relevance across the various subdisciplines of chemistry and chemical biology. Our faculty are extremely successful at securing funding from government agencies (e.g. NSF, NIH, Dept. of Energy, Dept. of Defense); since 2010 the department has consistently ranked in the top 10 chemistry departments nationwide in terms of total research expenditures. We are excited to expand our research efforts in our new chemistry building, which opened in 2018.

Much of the department's research is deeply interdisciplinary, which means that our students enjoy opportunities for intellectual growth and research partnerships extending well beyond the traditional subdisciplines of chemistry. Our faculty have joint appointments and supervise graduate students and postdocs in many research centers and institutes around the New Brunswick/Piscataway campus, such as:

- The Waksman Institute for Microbiology
- Institute for Advanced Materials, Devices and Nanotechnology
- Center for Integrated Proteomics Research
- Rutgers Catalysis Research Center
- Center for Advanced Biotechnology and Medicine
- Rutgers Energy Institute

The broad scope of these centers and institutes, as well as the department's own resources, provide a vast array of state-of-the-art instrumentation to support our research efforts.

Research Instrumentation

- High-field NMR spectrometers (600, 700, 800 MHz) capable of multinuclear 2D and 3D experiments
- Low-field NMR spectrometers (300, 400, 500 MHz)
- Several X-ray diffraction instruments, including single-crystal diffractometers, 2D Histar X-ray imaging system, and multiple powder diffractometers
- Ultrahigh vacuum surface analysis apparatus with Auger, photoelectron and electron energy loss spectroscopy, mass spectrometry, low energy electron diffraction and He atom scattering
- Scanning probe microscopy instruments, including scanning tunneling and atomic force microscopes
- Infrared, UV-vis and fluorescence spectroscopy instrumentation including temperature programmable optical rotatary dispersion–circular dichroism spectrapolarimeters, temperature-controlled fluorescence spectrophotometer, low-temperature FTIR spectrometers, nanosecond flash-photolysis, and high-resolution UV-visible and Raman spectrometers
- Other experimental instrumentation including a SQUID magnetometer, inductively coupled plasma (ICP) mass spectrometer, HPLC-mass spectrometer with electrospray ionizer, automated DNA and peptide synthesizers
- Computational chemistry cluster with ~1400 parallel cores, and local support for accessing massively parallel supercomputers at national centers

Chinese 165 (SGS-CH)

CHINESE 165

Programs Offered : M.A.T. (Master of Arts in Teaching)

Please visit the Chinese program website.

This program is designed for practicing Chinese language teachers at American secondary schools who wish to further develop their professional knowledge and skills.

This program serves the needs of those interested in pursuing a career related to Chinese language and culture teaching, especially at K-12 schools. It partially fulfills the New Jersey Department of Education (NJDOE) requirements to obtain a Certificate of Eligibility (CE) to teach Chinese at K-12 schools in NJ.

Faculty

Jessey Choo, Ph.D., Princeton

Tao Jiang, Ph.D., Temple

Sukhee Lee, Ph.D., Harvard

Peng Liu, Ph.D., Columbia

Xun Liu, Ph.D., Southern California

Weijie Song, Ph.D., Columbia

Wendy Swartz, Ph.D., California (Los Angeles)

Xiaojue Wang, Ph.D., Columbia

Yuan-Chen Jenny Yang, Ph.D., Yale

Degree Requirements

Degree Requirements

For the M.A.T. in Chinese, candidates are expected to complete a total of thirty credits.

The first 27 credits should normally be distributed over the following areas:

- 9 credits in language (e.g., linguistics, grammar, writing, translation, language across the curriculum)
- 12 credits in literature and/or culture
- 6 credits in methodology (taken through the Rutgers World Languages Institute).
- Students must maintain a minimum GPA of 3.0.

See Learning Goals for Master of Arts for Teachers (M.A.T.) in Chinese for a more in-depth description of the program's aims.

In the semester after completing these 27 credits, students sign up for the 3-credit capstone course of the program, the Teaching Portfolio Project (16:617:599). In this independent study course candidates, under the supervision of two Rutgers faculty members, put together a teaching portfolio that consists of lesson plans, realia, and supplementary teaching materials pertinent to the work situation of each candidate. Of the 30 credits, candidates for the M.A.T. generally can take no more than 6 credits of advanced undergraduate course work towards the degree. Other options include:

- Students may elect to take one course (three credits) in the Graduate School of Education (GSE), upon prior approval by the graduate director.
- Students may, with the approval of the graduate director, participate in a summer graduate study abroad program and earn credits.
- The graduate director may accept up to 6 credits at the graduate level from another institution toward the fulfillment of degree requirements at

Rutgers. Transfer credits must have been taken at an accredited college/university, must be based on graduate level course work related to Chinese language, linguistics, literature, or history in classes taught in Chinese, and cannot have been counted toward any degree that you previously completed (no double counting, see Graduate School-New Brunswick Catalog 2008-2010, “Academic Policies and Procedures”).

Chinese 165 (SGS-CH)

Course Descriptions

Course Descriptions

16:165:504 ***Advanced Topics in Chinese Language (3)***
Methodology, research, and teaching of more advanced treatments of the subfields in Chinese language and linguistics.

16:165:506 ***Chinese across the Curriculum (3)***
Pedagogical approaches to fundamental topics in teaching Chinese as a second language in K-12 and higher education.

16:165:507 ***Chinese across the Curriculum (3) Chinese across the Curriculum II (3)***
Pedagogical approaches to current issues in teaching Chinese as a second language in K-12 and higher education.

16:165:510 ***Teaching Chinese through Modern Fiction (3)***
Reading of works by modern Chinese writers to raise language competency and understanding of Chinese culture and history.

16:165:512 ***Contemporary Chinese Culture and Society (3)***
Analysis of China’s global rise, emphasizing cultural flux in contemporary society and history.

16:165:524 ***Advanced Topics in Chinese Civilization (3)***
Critical readings on Chinese civilization, examining identity, Confucianism, politics, gender, minorities, communities, and print culture.

16:165:532 ***Chinese Poetry and Poetics (3)***
Major Chinese poets, poetic forms, and schools of poetic criticism from earliest times to the end of the 19th century.

16:217:511 ***The Silk Road: A History of Cultural and Material Exchanges (3)***
Silk Road networks, cultural exchange, and Eurasian identities across history.

16:217:515 ***Women in Pre-Modern China (3)***
Women's roles and representations in premodern Chinese society and texts.

16:217:520 ***History of Chinese Literature: Beginnings to 1300 (3)***
Genres, contexts, and concepts of literature in premodern China.

16:217:521 ***History of Chinese Literature: 1300 to 1900 (3)***
Literary genres and works of Ming–Qing China in historical context.

16:217:525 ***Nature in Chinese Literature (3)***
Conception, perception, and literary representation of nature in early and medieval China.

16:217:526 ***Classic of Poetry (3)***
Introduces the *Classic of Poetry*, its exegetical traditions, and major strands of modern scholarship.

16:217:527 ***Topics in Classical Chinese Poetry and Poetics (3)***
Major poetic genres of Han through Six Dynasties, emphasizing close reading, genre conventions, and historical context.

16:217:528 ***Tang Poetry (3)***
Close reading of Tang poetry, genre conventions, poets, and historical context.

16:217:529 ***Early China in the World (3)***
Chinese cosmography and epistemology shaping cultural identity from antiquity to medieval times.

16:217:531 ***Readings in Modern Chinese Literature (3)***
Modern Chinese-language literature exploring culture, history, politics, identity, and imagination across regions.

16:217:532 ***Cold War Chinese Literature & Film (3)***
Cultural Cold War in Chinese-language literature, film, music, radio, and migration.

16:217:533 ***The City in Modern Chinese Literature & Film (3)***
Chinese cities in modern literary and cinematic imagination and cultural representation.

16:217:534 ***Cultural Memory in Contemporary China (3)***
Cultural memory and historical imagination in contemporary Chinese-speaking communities.

16:217:537 ***Chinese Martial Arts Film Culture (3)***
Wuxia traditions, auteur reinventions, and global circulation from Cold War to present.

16:217:501 ***Pro-Seminar I: Critical Approaches to East Asian Studies (3)***
Key paradigms in comparative literary, historical, and cultural studies of East Asia.

16:217:502 ***Pro-Seminar II: Research Methodology (3)***
Graduate research tools, methods, and primary sources in East Asian Studies.

16:217:512 ***Interdisciplinary Topics in East Asia (3)***
Modern Asian cultures examined through literature, cinema, history, media, and interdisciplinary perspectives.

16:217:517 ***Woman and Gender in East Asia Religiosity (3)***
Gender, body, and religious belief in East Asian traditions.

Civil and Environmental Engineering 180 (SGS-CEE)

CIVIL AND ENVIRONMENTAL ENGINEERING 180

Degree Programs Offered: M.S., Ph.D.

Please visit the Civil and Environmental Engineering website.

Providing education and research for solving complex problems related to the built infrastructure and the natural environment and preparing students for careers in academia, industry, and the public sector.

The Civil and Environmental Engineering program provides education and research in sustainability and resilience of infrastructures, infrastructure materials and design, transportation planning and management, deploying emerging concepts and technologies in construction, and environmental pollution control, management, and protection of resources.

We offer graduate degrees that reflect individual student goals from career advancement to research intensive.

Master of Science Degree

This degree provides advanced training in critical areas of civil and environmental engineering: construction engineering and management; geotechnical engineering; structural engineering; transportation and infrastructure engineering; and water resources and environmental engineering.

Doctoral Degree

This degree trains students at the highest level to assume leadership roles in technical fields in construction engineering and management; geotechnical engineering; structural engineering; transportation and infrastructure engineering; and water resources and environmental engineering – and prepares graduates for careers in academia, industry and engineering firms, and the public sector.

BS/MS Accelerated Degree

The goal of the CEE B.S./M.S. is to allow academically qualified students to receive the B.S. and M.S. degrees in a shortened time frame. This highly intensive academic program gives students more research experience and better prepares them for research and development careers or further graduate study.

Research

The CEE Department has research thrusts in key areas related to civil and environmental engineering including construction management and engineering, geotechnical engineering, transportation engineering, water resources and environmental engineering. Both the curriculum and advanced laboratories and equipment are designed to support research focus areas and prepare students for dynamic careers.

Our faculty members are committed to research, often in collaboration with industry and other disciplines, to advance the state of knowledge and practice in our field.

The Department also includes the Center for Advanced Infrastructure and Transportation (CAIT). Since 1998, CAIT has been a University Transportation Center (UTC)—an elite group of academic research institutions sanctioned and supported by the U.S. Department of Transportation. It was named one of only five National UTCs in 2013 and selected to lead the Region 2 UTC in 2018.

Faculty

Adi Abu-Obediah, Ph.D., Rutgers

Basily Basily, Ph.D., Aston (Birmingham)

John Braley, M.S., Drexel; Ph.D., Rutgers

Vassiliki Demetracopoulou, Ph.D., Texas (Austin)

Nicole Fahrenfeld, Ph.D., Virginia

Jie Gong, Ph.D., Texas (Austin)

Qizhong Guo, Ph.D., Minnesota

Yalin Li

Joseph Lifrieri

Meiyin Liu, B.S., Wuhan; M.S., Ph.D., Michigan

Monica Mazurek, Ph.D., California (Los Angeles)

Robert Miskewitz, Ph.D., Stevens Institute of Technology

Chaekuk Na

Hani Nassif, Ph.D., Michigan

Efthymios Nikolopoulos

Tyler Oathes, B.S., Oregon; M.S., Ph.D., California (Davis)

Christopher Obropta, Ph.D., Stevens

Ruo-Qian (Roger) Wang, Ph.D., Massachusetts

M.S. Degree Requirements

M.S. in Civil and Environmental Engineering

The Department of Civil and Environmental Engineering offers the following specialties: Construction Engineering, Geotechnical Engineering, Structures, Transportation, Water Resources and Environmental Engineering.

In addition, The Department is Offering in collaboration with other graduate programs two graduate certificate programs in (a) Engineering Geophysics and (b) Transportation Studies.

The Master of Science degree requires the completion of at least 30 credits under two options:

- **Option A:** Requires a minimum of 24 credits of coursework plus a 6 credit thesis and a public oral defense of thesis.
- **Option B:** Requires a minimum of 27 credits of coursework plus a 3 credit special project, and a final oral examination.

Students are free to choose between Options A and B, except graduate assistants, who are required to take Option A.

Civil and Environmental Engineering 180 (SGS-CEE)

Doctoral Degree Requirements

Doctoral Degree Requirements

The graduate program in civil and environmental engineering offers the degree Doctor of Philosophy that requires at least 48 credits of coursework and at least 24 credits of thesis research.

The doctoral program is arranged in the following two phases.

- **Phase 1:** The student pursues courses of study and successfully completes a qualifying examination.
- **Phase 2:** The student primarily pursues courses of research and presents results in an acceptable dissertation.

General Course Credit Requirements

Students must satisfy the following credit requirements toward the Ph.D. degree.

- At least 48 credits of coursework, which may include M.S. degree coursework, plus at least 24 credits of thesis research.
- At least 30 credits of coursework must be taken from the Department of Civil and Environmental Engineering or 15 credits if entering with 24 transfer credits and M.S. degree in civil or environmental engineering.
- No more than 6 credits of either Advanced Topics in Civil Engineering (180:601 or 180:602) or Advanced Topics in Environmental Engineering (180:611 or 180:612).
- No credit in 300-level courses and no more than 9 credits in 400-level courses may be used toward the 48 credits of required coursework.
- At least 18 credits must be in courses within his/her major area of discipline.

- At least four semesters (N credit prefix) of Seminar in Civil and Environmental Engineering (180:691, 180:692).
- At least 6 credits in the area of mathematics, numerical methods and statistics are required.

Course Descriptions

Course Descriptions

Construction Engineering and Management

16:180:512 ***Advanced Concrete Technology (3)***
Introduction of fundamentals and recent advancements in concrete technology. Fundamental aspects of concrete constituent materials (cements, pozzolans, water, aggregates, and admixtures) and their effects on the engineering properties of fresh and hardened concrete, long-term performance, and durability. Nanocements and nanomaterials. Special concretes such as SCC, RCC, Porous concrete, and others, concrete degradation, NDT/NDE methods, and repair methods.

16:180:516 ***Advanced Structural Design (3)***
Selected topics include plastic design of frames; design of space structures; computer aided design; bridge design; conceptual preliminary, and final design; economic and practical considerations; detailing Design project.

16:180:541 ***Advanced Reinforced Concrete I (3)***
Limit states and ultimate load theory in flexure, shear, diagonal tension, and torsion of symmetrical and non-symmetrical member brackets, corbels, and deep beams; biaxial bending and buckling behavior of compression members; serviceability behavior and theories for deflection and cracking of one-dimensional and two-dimensional elements; frame analysis of two-way slabs and plates for flexural strength and deflection wind analysis and continuity in floor systems and frames; hinge field theory for the design of two-way floor systems, failure mechanisms in two-way plates, energy solutions for strength evaluation; seismic design of structures.

16:180:545 ***Advanced Construction Engineering Management I (3)***
Advanced techniques for financial and management control of construction projects; construction company financial control and accounting; project cost control; estimating and bid preparation; equipment management; computer and expert system applications to construction financial control.
Prerequisites: 14:180:406,407, or equivalent.

16:180:546 ***Advanced Construction Engineering Management II (3)***
Analytical techniques for control of construction operations; network scheduling techniques (CPM and PERT); computerized scheduling linear programming applied to construction; simulation of construction operations; decision and risk analysis.
Prerequisites: 16:180.406,407, or equivalent.

16:180:548 ***Infrastructure Management System (3)***
Knowledge, tools, and methods to assess, maintain, rehabilitate, and manage transportation infrastructure systems, such as pavement, bridge, and pipeline. Pavement condition evaluation and performance prediction, life-cycle cost analysis, and selection of maintenance strategy.
Prerequisite: 16:180:535.

16:180:550 ***Building Information Modeling (3)***
Model authoring, green BIM, energy simulation, sustainability study, structural design, collaborative design, model-based estimation, spatial coordination, 4D simulation and sequencing, BIM execution planning, information modeling, interoperability, facility management, legal aspects.

16:180:554 ***Sustainable Transportation Infrastructure (3)***
The course contents include: general concepts of sustainability; sustainability rating tools for transportation infrastructure projects; life-cycle assessment approach and its limitations and challenges; and case studies of pavement LCA for material, design, construction, maintenance, and use phases.

16:180:556 ***Methods and Models for Resilient Building Infrastructure (3)***
Resilience of building and infrastructure systems through the lens of infrastructure design, construction, maintenance, computational science, and social science. Modeling approaches for modeling, evaluating, and predicting the resilience of civil infrastructure systems as well as for understanding how individual systems interact with each other. Survey of literature in disaster resilience, a rapidly growing field; lessons learned from past natural disasters about various building and infrastructure systems; in-depth analysis of resilience measurement metrics, agent-based simulation, and several emerging statistical learning methods that have been successfully applied in the domain of infrastructure resilience.

16:180:561 ***Advanced Water Supply and Sewerage (3)***
Development of sources of water supply; information analysis; design of collection, transmission, and distribution systems. Hydraulics and design of sewers.

16:180:562 ***Design of Water and Wastewater Treatment (3)***
Functional study of plant loadings in relation to degree of treatment desired; layout, analysis, and design of treatment process units; mechanical and thermal energy requirements and equipment.

16:180:572 ***Soils Engineering (3)***
Earth pressure theories; stability of natural slopes and open cuts; stability of built embankments, earthquake effects, rapid drawdown and seepage problems, slope-stabilization techniques; retaining walls; computer application in slope stability.

16:180:577 ***Advanced Foundation Engineering (3)***
Subsurface investigations; site preparation and improvement; flexible retaining structures; caissons; drilled shafts; underground structures; pile foundations; foundations subjected to dynamic loads; marine structures; environmental effects of construction.
Lecture 2 hours, Design lab 3 hours.

16:180:595 ***Civil Infrastructure and Land Development (3)***
Introduction to civil plans then function, alternatives, design, & construction of infrastructure such as stormwater management, grading, earthwork, erosion control, wet & dry utilities, roadways, field conditions & infrastructure rehabilitation.

16:180:596 ***Construction Management and Land Development (3)***
Land Development Management processes – identifying & evaluating land opportunities, approvals & entitlements, estimating, budgeting, sequencing, bidding, contracting, consultant & contractor management, financial modelling (cashflow/proforma), value engineering, homeowner associations, project close-out.

16:180:597 ***Introduction to Advanced Surveying for Construction (3)***
The course covers four major areas in modern surveying: 1) Land surveying and mapping; 2) GPS and navigation; 3) Photogrammetry and remote sensing; 4) GIS and cartography. The course will emphasize mathematical foundations, applications, and modern innovations in construction.

16:180:598 ***Project Delivering and Contracting Methods (3)***
This course focuses on the delivery and contracting process of capital projects. Course topics include project life-cycle and stakeholders, alternative delivery methods, procurement procedures, contract types, multi-attribute decision-making for funding and delivery, financial models for Private Public Partnerships (PPPs), and implementation examples.

Geotechnical Engineering

16:180:535 ***Mechanistic Pavement Design (3)***
Pavement design principles for new and rehabilitated pavements. Material characterization, flexible and rigid pavement design, laboratory and field data collection and analysis, pavement-management practices. Deflection back calculation and pavement-design software.

16:180:549 ***Advanced Pavement Material and Modeling (3)***
Mechanical behavior of pavement materials, including laboratory characterization methods, constitutive models, and field testing and assessments. Modeling approaches used to predict pavement responses and performance under traffic and environmental loading.

16:180:570 ***Sustainability and in Geo-Environmental Engineering (3)***
Identification of sustainable geotechnical and environmental properties of the solid waste; geotechnical and environmental design techniques, and their application in constructing a sustainable disposal site to enhance the environment and benefit society. Reduction, reuse and recycling of waste; site selection methodologies; the principles of decomposition of the waste, long term settlement and stability of waste materials; mass balance computational procedures assessment of natural attenuation and gas migration and gas collection and recovery.

16:180:571 ***Advanced Soil Mechanics (3)***
Elasticity and plasticity models; stress-strain relations for soils; failure criteria; elastic solutions for half-space and layered systems; one- and three-dimensional consolidation theory; computer applications.

16:180:572 ***Soils Engineering (3)***
Earth pressure theories; stability of natural slopes and open cuts; stability of built embankments, earthquake effects, rapid drawdown and seepage problems, slope-stabilization techniques; retaining walls; computer application in slope stability.

16:180:573 ***Excavation Retaining Systems (3)***
Site evaluation and design of excavation support systems and earth retaining structures, including site and subsurface conditions, earth and rock pressures, stability of slopes, quality control, and construction monitoring.

16:180:574 ***Groundwater Engineering I (3)***
Porous media; fundamental equations of groundwater flow; confined flow; unconfined flow; hydraulics of wells; numerical methods; groundwater contamination; investigation; remediation and cleanup; monitoring; computer applications.

16:180:576 ***Groundwater Engineering II (3)***
Solute and particle transport; dissolution of nonaqueous phase liquids; aqueous geochemistry; chemical property estimation; numerical modeling and analysis; analytical and stochastic techniques; computer applications.
Prerequisite: 16:180:574.

16:180:577 ***Advanced Foundation Engineering (3)***
Subsurface investigations; site preparation and improvement; flexible retaining structures; caissons; drilled shafts; underground structures; pile foundations; foundations subjected to dynamic loads; marine structures; environmental effects of construction.
Lecture 2 hours, Design lab 3 hours.

16:180:587 ***Soil Dynamics (3)***
Review of basic vibration theories as applied to soil dynamics; elastic wave propagation in soils; elements of seismic soil explorations; dynamic soil properties; laboratory evaluation of dynamic soil properties; liquefaction; machine foundations; fundamentals of soil-structure interaction; earthquake engineering; computer applications.

16:180:579 ***Environmental Management of Maritime Infrastructure (3)***
Navigational engineering, maritime construction, and port development. Emphasis on dredged material management and regulation, fate and transport of sediment and contaminants in relation to dredging and dredged material management, and use of dredged materials in remedial design. Aspects of sediment characterization, estuarine dynamics, and environmental modeling.

16:180:580 ***Engineering Rock Mechanics (3)***
Methods of rock exploration, physical and mechanical properties of rocks; deformation; in situ strength; hydrothermal effects on rocks; stability of rock masses; state of stress and strain around tunnels, shafts, and domes; stabilization of rocks.

16:180:581 ***Physicochemical Properties and Stabilization of Soils (3)***
Relationship between physical properties and selected chemical and mineralogical characteristics emphasizing fine-grained and colloidal fractions; problems affecting site use, including weak, compressible soil; high shrink-swell potential and erodibility; stabilization techniques, including compaction, earth reinforcement, drainage and erosion control, admixture stabilization, precompression, grouting.

16:180:582 ***Dynamic Soil Structure Interaction and Earthquake Engineering (3)***
Seismicity; size of earthquakes; estimation of ground motion parameters; seismic hazard analysis; site response analysis; design ground-motion building-code provisions; soil-structure interaction effects and formulation; simplified models; solutions in frequency and time domains.

16:180:584 ***Geosynthetics in Sustainable Geoenvironmental Engineering (3)***
Geosynthetic design has undergone a rapid advancement in technology in response to regulatory concerns and the need for sustainable designs. Economical civil and environmental projects can utilize geosynthetics in sustainable compliant designs.

Structural Engineering

16:180:512 ***Advanced Concrete Technology (3)***
Introduction of fundamentals and recent advancements in concrete technology. Fundamental aspects of concrete constituent materials (cements, pozzolans, water, aggregates, and admixtures) and their effects on the engineering

properties of fresh and hardened concrete, long-term performance, and durability. Nanocements and nanomaterials. Special concretes such as SCC, RCC, Porous concrete, and others, concrete degradation, NDT/NDE methods, and repair methods.

16:180:514 ***Composite Materials in Civil Engineering (3)***
Fundamental aspects of composites and their practical applications; design guidelines and methodologies for structural shapes and for reinforcement of concrete, steel, and timber structures. FRP rebars, bonded plates, bonded fabrics, and fiber wraps. Application exercises for conventional products that combine material fabrication and design concepts.
Prerequisite: 14:180:243.

16:180:515 ***Structural Analysis (3)***
Principle of superposition as applied to statically indeterminate structures; energy methods; approximate methods for the analysis of trusses and frames; failure theories; plastic analysis; introduction to matrix methods for structural analysis; analysis of composite structures.

16:180:516 ***Advanced Structural Design I (3)***
Selected topics include plastic design of frames; design of space structures; computer aided design; bridge design; conceptual preliminary, and final design; economic and practical considerations; detailing Design project.

16:180:517 ***Structural Dynamics (3)***
Analysis of structural members and systems subjected to dynamic loads; single-degree-of-freedom and multi-degree-of-freedom analytical models of civil engineering structures; free vibrations, harmonic and transient excitation, foundation motion, response spectrum, Lagrange's equation; modal superposition and direct integration methods; response by a general purpose dynamic computer code.

16:180:518 ***Design for Lateral Loads (3)***
Fundamentals of seismic analysis and design of buildings and bridges; earthquake ground motion, earthquake characterization response spectra, time history, inelastic response of structures, and ductility demands; modeling and analysis of structures, structural systems, performance-based design, and seismic design codes; design of shear walls, moment connections, bracings, deep foundations, and isolation bearings; seismic detailing; seismic retrofit and earthquake protection systems; introduction to wind load design.
Prerequisites: 16:180:517, 14:180:413, or equivalent.

16:180:519 ***Advanced Structural Analysis (3)***
Rigorous matrix formulation of the stiffness and flexibility method of structural analysis applied to skeletal structures. Development of computer programs for the analysis of space and plane trusses and frames.

16:180:521 ***Fatigue and Fracture of Structures (3)***
This course covers fatigue and fracture characteristics of steel structures from metallurgical, mechanical and structural engineering viewpoints. Both theoretical and experimental backgrounds to design guidelines and application examples are provided.

16:180:522 ***Finite Element Methods in Civil Engineering (3)***
General finite element formulation of two- and three-dimensional boundary value problems; advanced finite element techniques; finite element formulation problems in continuum mechanics; applications in civil engineering problems.

16:180:523 ***Structural Optimization (3)***
Developments in optimal structural design. Optimality criteria methods. Formulation of structural design problems as optimization problems using special techniques, linear and nonlinear optimization methods. Fully-stressed design versus optimum design.

16:180:524 ***Bridge Design I (3)***
History, development, and classification of bridges; use of LRFD-AASHTO specifications for the design of basic straight-girder type bridges, including composite and noncomposite I and box girders; simple and continuous spans; substructure design; field testing and monitoring; and repair and rehabilitation.

16:180:525 ***Structural Reliability (3)***
Elements of probability theory and its application to structural engineering, statistical distributions of load, probable strength of structural elements, safety analysis and reliability prediction of structural systems, and reliability-based designs.

16:180:526 ***Structural Stability (3)***
Elastic and inelastic buckling of members under pure compression pure moment, and combined compression and moment; local buckling; buckling of frames, plates, and shells.

16:180:527 ***Bridge Design II (3)***
Advanced bridge-analysis methods, such as the grillage analogy, semicontinuum method, and orthotropic-plate method; design of cable-stayed bridges; dynamic analysis of bridges; bridge testing, monitoring, and instrumentation techniques; nondestructive testing of bridges; bridge inspection and rehabilitation.

16:180:541 ***Advanced Reinforced Concrete I (3)***
Limit states and ultimate load theory in flexure, shear, diagonal tension, and torsion of symmetrical and non-symmetrical member brackets, corbels, and deep beams; biaxial bending and buckling behavior of compression members; serviceability behavior and theories for deflection and cracking of one-dimensional and two-dimensional elements; frame analysis of two-way slabs and plates for flexural strength and deflection wind analysis and continuity in floor systems and frames; hinge field theory for the design of two-way floor systems, failure mechanisms in two-way plates, energy solutions for strength evaluation; seismic design of structures.

16:180:542 ***Advanced Reinforced Concrete II (3)***
Limit theory of indeterminate reinforced concrete frames and continuous beams; moment redistribution and ductility of joints; plastic hinging and rotational capacities of confined concrete members and structural systems; membrane and bending theories for the design and analysis of reinforced concrete shells and folded plates; buckling of concrete shells; design project of a total floor shell roof system.

16:180:544 ***Prestressed Concrete (3)***
Theory of prestressed concrete; partial losses in prestress and long term effects due to creep, shrinkage, and relaxation; service load and ultimate load evaluation of pretensioned and post-tensioned elements in flexure, shear, and torsion; deflection and flexural cracking hypotheses of prestressed elements; and post-tensioned liquid- and gas-retaining circular tanks; prestressed shells and domes of circular tanks.

16:180:553 ***Theory Analysis of Plates and Shells (3)***
Review of elastic equations; Kirchoff-Love and Mindlin plate theories; classical and numerical solutions; dynamic analysis of plates; theory and applications of shells; composite plates.

Transportation Engineering

16:180:530 ***Maritime Transportation (3)***
Supply-demand; liner shipping industry; management and operation of the port sector, environmental aspects, including dredged material management, and ship-generated marine pollution; security problems and initiatives in maritime transportation.

16:180:531 ***Traffic Engineering (3)***
Techniques and hardware used for real-time traffic-data collection, sources of errors and sample-size determination; design parameters, including economic and human factors, as well as environmental constraints; experiment design for model-development and transportation-operations analyses; deterministic and stochastic models of traffic processes including queuing theory, headway distributions, and gap acceptance; stream-flow characteristics including car-following and multilane models, bottleneck, fuel consumption, and noise models; models for automatic vehicle control; network operations; models for modes of traffic; traffic control, short-term planning, and system evaluation.

16:180:532 ***Transportation Planning (3)***
Intelligent Transportation Systems (ITS) projects in the United States, Europe, and Japan; advanced traveler-information systems; advanced traffic-management systems; automated highway systems; commercial vehicle operations; operational field tests; system architecture; human factors; safety; institutional and legal issues; multimodal ITS applications; modeling ITS as hybrid systems; evaluation and selection of candidate ITS.

16:180:533 ***Traffic Operations (3)***
Real-time transportation operations; transportation-system evaluation; demand modeling; time-sensitive transportation problems including real-time traffic control and networkwide feedback control; linear and nonlinear network optimization; deterministic and stochastic queuing models of the control of rush-hour traffic, traffic-signal timing, and ramp metering; incident management; operations; strategic versus tactical transportation infrastructure planning; operation of parking facilities; congestion management strategies; automatic vehicle control.

16:180:534 ***Design of Transportation Facilities (3)***
Software and hardware to design, test, and evaluate transportation systems; field studies, development and use of computer models, and instrumentation of small- and full-scale hardware models; geographic-information systems, artificial intelligence, and computer graphics for design and evaluation; optimization software for vehicle scheduling and routing and traffic assignment; visual-simulation development tools for rapid prototyping of selected transportation systems; simulated life-cycle analysis and validation techniques; data acquisition and control; advanced data-visualization tools to test and evaluate developed models.

16:180:535 ***Mechanistic Pavement Design (3)***
Pavement design principles for new and rehabilitated pavements. Material characterization, flexible and rigid pavement design, laboratory and field data collection and analysis, pavement-management practices. Deflection back calculation and pavement-design software.

16:180:536 ***Transportation Systems Analysis (3)***
The course is designed to provide students with knowledge and skills needed for conducting comprehensive analysis of transportation systems. Topics to be covered in this course include traffic impact analysis, transportation supply models, travel demand models, discrete choice models, and transportation project evaluation.

16:180:537 ***Intelligent Transportation Systems (3)***
Focuses on Advanced Traveler Information Systems (ATIS) and advanced traffic-management components of Intelligent Transportation Systems (ITS). Students also learn about Commercial Vehicle Operations (CVO), Advanced Vehicle Control Systems (AVCS), and Advanced Rural Transportation Systems (ARTS).

16:180:538 ***Freight Transportation Systems (3)***
This graduate-level course provides an introduction to multimodal (rail, road, waterway) freight transportation systems. This course comprises three inter-connected parts: 1) introduce basic modal-specific concepts and industry development; 2) explain widely used modeling techniques used in freight transportation and logistics; 3) apply the methodologies to an emerging high-profile transportation research topic.

16:180:548 ***Infrastructure Management System (3)***
Knowledge, tools, and methods to assess, maintain, rehabilitate, and manage transportation infrastructure systems, such as pavement, bridge, and pipeline. Pavement condition evaluation and performance prediction, life-cycle cost analysis, and selection of maintenance strategy.
Prerequisite: 16:180:535.

16:180:549 ***Advanced Pavement Material and Modeling (3)***
Mechanical behavior of pavement materials, including laboratory characterization methods, constitutive models, and field testing and assessments. Modeling approaches used to predict pavement responses and performance under traffic and environmental loading.

16:180:551 ***Railroad Transportation System (3)***
As the first rail-dedicated transportation graduate course at Rutgers, this course will focus on teaching principal elements of railroad transportation, engineering and operations. The topics will include railroad efficiency and economics, track infrastructure, rail vehicle, traffic control system, highway-rail grade crossing, and railroad safety. This course is beneficial and useful for graduate students in several civil engineering majors such as transportation, geotechnical, and structure.

16:180:552 ***Engineering Risk Analysis in Multimodal Transportation Systems (3)***
Fundamentals of engineering risk analysis in multimodal transportation systems. The topics include probabilistic risk analysis, Bayesian approach, multi-attribute decision analysis, transportation safety, quantitative risk communication, and risk visualization.

16:180:554 ***Sustainable Transportation Infrastructure (3)***
The course contents include: general concepts of sustainability; sustainability rating tools for transportation infrastructure projects; life-cycle assessment approach and its limitations and challenges; and case studies of pavement LCA for material, design, construction, maintenance, and use phases.

16:180:555 ***Railway Track Engineering and Safety (3)***
Course topics include rails, ties, track layout, and geometry; ballast and subgrade; ties; fastenings; track analysis and design; special trackwork; grade crossings; track standards; and inspection, condition assessment, and life cycle asset management. There may be field trip(s) to observe railroad track and components.

16:180:579 ***Environmental Management of Maritime Infrastructure (3)***
Navigational engineering, maritime construction, and port development. Emphasis on dredged material management and regulation, fate and transport of sediment and contaminants in relation to dredging and dredged material management, and use of dredged materials in remedial design. Aspects of sediment characterization, estuarine dynamics, and environmental modeling.

Water Resources and Environmental Engineering

16:180:560 ***Air Quality Management (3)***
Transportation, energy generation, and manufacturing are three sectors the course examines in detail along with Air Quality Management Plans (AQM) required at the State level. The course integrates a systems-based approach focused on these major sources. It introduces GIS modeling and analysis tools for current and advanced air quality management practice.

16:180:561 ***Advanced Water Supply and Sewerage (3)***
Development of sources of water supply; information analysis; design of collection, transmission, and distribution systems. Hydraulics and design of sewers.

16:180:562 ***Design of Water and Wastewater Treatment (3)***
Functional study of plant loadings in relation to degree of treatment desired; layout, analysis, and design of treatment process units; mechanical and thermal energy requirements and equipment.

16:180:563 ***Advanced Hydrology (3)***
Hydrologic processes and modeling evapotranspiration, infiltration, precipitation and snow melt, overland flow subsurface and surface flow relations, channel and watershed routing hydraulic flood routing, numerical methods; watershed modeling; stochastic processes in hydrology; flood and drought risks, flood plain analysis and management.

16:180:564 ***Unit Processes in Environmental Engineering (3)***
Theory and laboratory experiments demonstrating the design requirements associated with unit processes in water and sewage treatment. Advanced methods of analysis such as spectroscopy, potentiometry, polarography, conductivity, and chromatography.

16:180:565 ***Biogeochemical Engineering (3)***
Transformation of organic chemicals in sediments (marine, estua-rine) and freshwater environments; roles of microorganisms highlighted in examples of biogeochemical processes occurring in environmental matrices. Chemical processes and physical environment in natural (unperturbed) and polluted systems along with the degradation of biogenic and anthropogenic organic compounds. Molecular tracers specific to biogeochemical process as part of contemporary case studies.
Prerequisites: 01:160:159-160, 161-162.

16:180:566 ***Sediment Transport (3)***
Erosion, transport, and deposition of sediment within a watershed and, especially, the fluvial network; flow resistance in natural channels; suspended load, bed load, and total load; noncohesive vs. cohesive sediment; sedimentation; sediment transport as an index of pollutant movement; numerical modeling and field monitoring.

16:180:567 ***Analysis of Receiving Water Quality (3)***
Introduction to mathematical modeling of water quality well- versus partially-mixed water bodies; turbulent diffusion, velocity-induced dispersion; reaction kinetics; biological processes, growth kinetics, BOD, dissolved oxygen, photosynthesis; development of water quality models.

16:180:568 ***Thermal Effects on Receiving Waters (3)***
Modes of heat transfer, energy equation; heat balance in well-mixed water bodies; heat exchange between atmosphere and water body; temperature dynamics in well-mixed bodies; thermal stratification in streams and reservoirs; heat dispersion; thermal jets and plumes; cooling ponds; temperature effects on water quality parameters.

16:180:569 ***Environmental Informatics (3)***
The use of sensor networks for understanding and managing large-scale environmental systems. Topics include environmental information systems, data-driven modeling, geostatistics, and real-time decision making.
Prerequisites: Familiarity with basic statistics and with Matlab or similar program.

16:180:570 ***Sustainability in Geo-Environmental Engineering (3)***
Identification of sustainable geotechnical and environmental properties of the solid waste; geotechnical and environmental design techniques, and their application in constructing a sustainable disposal site to enhance the environment and benefit society. Reduction, reuse, and recycling of waste; site selection methodologies; the principles of decomposition of the waste, long-term settlement and stability of waste materials; mass balance computational procedures assessment of natural attenuation and gas migration and gas collection and recovery.

16:180:574 ***Groundwater Engineering (3)***
Porous media; fundamental equations of groundwater flow; confined flow; unconfined flow; hydraulics of wells; numerical methods; groundwater contamination; investigation; remediation and clean-up; monitoring computer applications.

16:180:576 ***Groundwater Engineering II (3)***
Solute and particle transport; dissolution of nonaqueous phase liquids; aqueous geochemistry; chemical property estimation; numerical modeling and analysis; analytical and stochastic techniques; computer applications.
Prerequisite: 16:180:574.

16:180:579 ***Environmental Management of Maritime Infrastructure (3)***
Navigational engineering, maritime construction, and port development. Emphasis on dredged material management and regulation, fate and transport of sediment and contaminants in relation to dredging and dredged material management, and use of dredged materials in remedial design. Aspects of sediment characterization, estuarine dynamics, and environmental modeling.

16:180:586 ***Advanced Fluid Mechanics (3)***
Basic laws and equations of fluid flows; exact and approximate solutions; potential flows; boundary layer flows; turbulent flows in pipes and open channels; free turbulent jets and wakes; turbulence and transport phenomena; transient flows.

16:180:588 ***Theory of Hydraulic Models (3)***
Geometric, kinematic, and dynamic similarity between prototype and models. Similarity laws; Model techniques; undistorted and distorted models; models for hydraulic structures, free-surface flows, flows over erodible beds, and hydraulic machinery. Environmental applications.

16:180:589 ***Remote Sensing Applications in Hydrology (3)***
This course introduces the students to the use of remote sensing for monitoring hydrological variables and estimate changes in their spatiotemporal patterns. Furthermore, students learn how to integrate remote sensing data to hydrological models to study hydrologic response of catchments during floods and droughts.

16:180:590 ***Coastal Engineering (3)***
Generation and propagation of tides; salinity intrusion, pollutant flushing, and sedimentation in estuaries; circulation in the coastal ocean; coastal water quality modeling; coastal wetlands; gravity waves; coastal erosion; coastal structure design.

16:180:591 ***Sustainable Environmental Biotechnology (3)***
Application of fundamental principles of environmental microbiology to bio-electrochemical systems, nutrient removal and recovery, biogas production, biofiltration, disinfection, and microbially influenced corrosion.

16:180:592 ***Green Infrastructure for Water Management (3)***
Green infrastructure using both natural and engineered systems to sustain ecological health, minimize environmental impacts, reduce energy consumption, and conserve resources for future generations. Stormwater management, low-impact development, wastewater management, sustainable water supply, minimizing disruption of the environment by built structures, and harnessing energy from existing water infrastructure.

16:180:593 ***Quantitative Microbial Risk Assessment & One Health Engineering (3)***
Application of quantitative microbial risk assessment and One Health framework for problems at the intersection of public, animal, and environmental health and engineered systems. Case studies of classical and current issues (e.g., antimicrobial resistance).

Civil and Environmental Engineering 180 (SGS-CEE)

Programs of Study

Programs of Study

The Department of Civil and Environmental Engineering offers the following specialties: (a) Construction Engineering, (b) Geotechnical Engineering, (c) Structures, (d) Transportation, (e) Water Resources and Environmental Engineering. In addition, The Department is Offering in collaboration with other graduate programs two graduate certificate programs in (a) Engineering Geophysics and (b) Transportation Studies.

A) Specialty Requirements

Students in the M.S. and Ph.D. programs are required to choose a specialty. For each specialty in the graduate program the student is required to take:

M.S.

•At least four departmental courses in their area of specialty

• At least two departmental electives outside of their specialty

Ph.D.

•At least 18 credits must be in courses within major area of Discipline.

Departmental Courses Listed by Specialties

Departmental Courses Listed by Specialties

Construction Engineering

180:516 Advanced Structural Design (3)

180:541 Advanced Reinforced Concrete (3)

180:512 Advanced Concrete Technology (3)

180:545 Advanced Construction Engineering Management (3) 180:546 Advanced Construction Engineering Management II (3)

180:548 Infrastructure Management System (3)

180:554 Sustainable Transportation Infrastructure (3) 180:561 Advanced Water Supply and Sewerage (3) 180:562 Design of Water and Wastewater Treatment (3) 180:572 Soils Engineering (3)

180:577 Advanced Foundation Engineering (3) 180:550 Building Information Modeling

180:556 Methods/Models of Resilient Building and Infrastructure (3) 180:595 Civil Infrastructure and Land Development (3)

180:596 Construction Management and Land Development (3) 180:597 Introduction to Advanced Surveying for Construction (3)

180:598 Project Delivery and Contracting Methods (3)

Geotechnical Engineering

180:535 Mechanistic Pavement Design (3)

180:549 Advanced Pavement Material and Modeling (3) 180:570 Sustainability in Geo-Environmental Engineering (3)

180:571 Advanced Soil Mechanics (3)

180:572 Soils Engineering (3)

180:573 Excavation Retaining Systems (3)

180:574 Groundwater Engineering I (3)

180:575 Theoretical Soils Mechanics (3)

180:576 Groundwater Engineering II (3)

180:577 Advanced Foundation Engineering (3)

180:578 Soil Dynamics (3)

180:579 Environmental Management of Maritime Infrastructure (3) 180:580 Engineering Rock Mechanics (3)

180:581 Physiochemical Properties and Stabilization of Soils (3)

180:582 Dynamic Soil Structure Interaction and Earthquake Eng (3)

180:584 Geosynthetics in Sustainable Geoenvironmental Eng (3) Structure Engineering Students in structures are required to take 180:516 and 180:541 first when the courses were offered

180:512 Advanced Concrete Technology (3)

180:514 Composite Materials in Civil Engineering (3) 180:515 Structural Analysis (3)

180:516 Advanced Structural Design (3)

180:517 Structural Dynamics (3)

180:518 Design for Lateral Loads (3)

180:519 Advanced Structural Analysis (3) 180:521 Fatigue and Fracture of Structures (3)

180:522 Finite Element Methods in Civil Engineering (3) 180:524 Bridge Design I (3)

180:525 Structural Reliability (3)

180:527 Bridge Design II (3)

180:541 Advanced Reinforced Concrete (3)

180:542 Advanced Reinforced Concrete II (3)

180:544 Prestressed Concrete (3)

180:553 Bending and Buckling of Plates and Shells (3) Transportation Engineering

180:530 Maritime Transportation (3)

180:531 Traffic Engineering (3)

180:532 Transportation Planning (3)

180:533 Traffic Operations (3)

180:534 Design of Transportation Facilities (3)

180:535 Mechanistic Pavement Design (3)

180:536 Transportation Systems Analysis (3)

180:537 Intelligent Transportation Systems (3)

180:538 Freight Transportation Systems (3)

180:548 Infrastructure Management System (3) 180:549 Advanced Pavement Material and Modeling (3) 180:551 Railroad Transportation System (3)

180:552 Engineering Risk Anal. in Multimodal Transp. Systems (3) 180:554 Sustainable Transportation Infrastructure (3)

180:555 Railway Track Engineering and Safety (3) 180:557 Railway Data Analytics (3)

180:579 Environmental Management of Maritime Infrastructure (3) Water Resources and Environmental Engineering

180:560 Air Quality Management

180:561 Advanced Water Supply and Sewerage (3)

180:562 Design of Water and Wastewater Treatment (3) 180:563 Advanced Hydrology (3)

180:564 Unit Processes in Environmental Engineering (3) 180:565 Biogeochemical Engineering (3)

180:566 Sediment Transport (3)

180:567 Analysis of Receiving Water Quality (3) 180:568 Thermal Effects of Receiving Waters (3) 180:569 Environmental Informatics (3)

180:570 Sustainability in Geo-Environmental Engineering (3)

180:574 Groundwater Engineering I (3)

180:576 Groundwater Engineering II (3)

180:579 Environmental Management of Maritime Infrastructure (3) 180:586 Advanced Fluid Mechanics (3)

180:588 Theory of Hydraulic Models (3)

180:589 Remote Sensing Applications in Hydrology (3) 180:590 Coastal Engineering (3)

180:591 Sustainable Environmental Biotechnology (3) 180:592 Green Infrastructure for Water Management (3) 180:593 Quantitative Microbial Risk Assessment & One Health Engineering (3)

C) Suggested Courses Outside of the Department* Computer Sciences

198:510 Numerical Analysis (3)

198:521 Linear Programming (3)

198:527 Computer Methods for Partial Differential Equations (3) Ecology and Evolution

215:506 Estuarine Ecology (4) Environmental Sciences

375:509 Groundwater Pollution (3)

375:525 Principles of Solid Waste Management & Treatment (3) 375:530 Hazardous Waste Management (3)

375:531 Biological Waste Treatment (3)

375:533 Water Law (3)

375:541 Environmental Models (3) Geological Sciences

460:408 Geomorphology (3)

460:516 Advanced Structural Geology (3)

460:555 Geophysics I (3)

460:556 Geophysics II (3)

Industrial Relations and Human Resources

545:610 Selected Problems in Industrial Relations (3) Industrial and Systems Engineering

540:510 Deterministic Models in Industrial Engineering (3) 540:515 Stochastic Models in Industrial Engineering (3) 540:522 Operations Research (3)

540:530 Forecasting and Time Series Analysis (3)

540:535 Graph Theory & Networks in Industrial Engineering and Operations Research (3)

540:575 Advanced Engineering Economics (3) Labor and Industrial Relations

578:521 New Directions In Collective Bargaining Applied Mathematics

642:516 Applied Partial Differential Equations (1)

642:527,528 Methods of Applied Mathematics (3)

642:550 Linear Algebra and Applications (3)

642:573,574 Numerical Analysis (3)

642:575 Numerical Solutions of Partial Differential Equations (3) 642:588 Introduction to Mathematical Techniques in Operations Research (3)

Mechanical and Aerospace Engineering 650:529 Random Vibration (3)

650:550 Advanced Mechanics of Materials (3)

650:540 Fluid Mechanics (3)

650:571 Introduction to Mechanics of Continua (3) 650:572 Theory of Elasticity (3)

650:573 Theory of Plasticity and Applications (3) 650:575 Finite Element Methods in Solid Mechanics (3) 650:577 Mechanics of Composite Materials (3)

650:585 Fracture Mechanics (3)

650:588 Stress Waves in Solids (3) Mechanics

654:583 Advanced Theory of Elasticity (3) Oceanography

712:501 Physical Oceanography 712:615 Geophysical Data Analysis Statistics

960:401 Basic Statistics for Research (G3)

960:463 Regression Analysis (G3) 960:563 Regression Analysis (3)

960:580 Basic Probability (3)

960:582 Introduction to Methods and Theory of Probability (3) 960:590 Design of Experiments (3)

960:654 Stochastic Processes (3) Management (for Construction Majors Only) 010:577 Accounting for Managers (3)

390:587 Financial Management (3)

835:578 Management of Operations (3)

MBA 22 620 685/686 CTEC 1: Discovery to Business Model

*students interested in taking a course not on the above list of suggested courses should get approval of their advisor and the graduate director.

Classics 190 (SGS-CL)

CLASSICS 190

Degree Programs Offered : M.A., M.A.T., Ph.D.

Please visit the Classics website.

Academic Building, 6th Floor

15 Seminary Place, Rm 6183

Classics graduate program offers full- and part-time courses of study leading to three advanced degrees: Master of Arts for Teachers (M.A.T.), Master of Arts, and Doctor of Philosophy. We typically have about two dozen students at any given time in residence.

Over the past 25 years, our Ph.D. recipients have received tenure-track jobs at Hunter, Temple, Hofstra, Princeton, Western Ontario, Villanova, Rhode Island College, Whitman College, and Royal Holloway, University of London (UK)—to name just those that resulted in tenure. Other graduates are visiting or continuing faculty at four-year colleges across the country (e.g., Bowdoin, Hofstra, Howard, Penn State, Texas A&M, Trinity Univ.), or in educational administration (Institute for Advanced Study), while others teach at the secondary school level in established programs at private and public institutions, or work in the private or non-profit sector. Recent M.A. graduates are currently enrolled in the Ph.D. programs at Boston University, Princeton University, and Yale University.

One of the main reasons for our students' success is that we put a premium on maintaining a supportive environment during all stages of the graduate experience. Another reason is that we offer our advanced students unusual independence in the creation and teaching of courses in our undergraduate curriculum. Finally, all students have the ability to take a wide range of courses through the Inter-University Doctoral Consortium that links Rutgers Classics with the following institutions: Columbia, Princeton, City University of New York (CUNY), Fordham, and New York University (NYU).

RU Classics focuses on the interpretation of original texts in Greek and Latin in the context of the general humanistic tradition. Our graduate students master the philological methods of the discipline and become familiar with the methods of such related fields as literary theory, ancient history, philosophy, and ancient art history. Full-time students generally finish the M.A. track in two years; candidates for the Ph.D. on average take an additional three years.

We offer six degree tracks leading to three different advanced degrees:

- M.A. Classics
- M.A. Interdisciplinary Classics and Ancient History
- M.A.T. Latin
- Ph.D. Classics
- Ph.D. Interdisciplinary Classics and Ancient History
- Ph.D. Joint program in Classics and Art History (by individual arrangement)

Faculty

Salam Al Kuntar, Ph.D., Cambridge

Emily Allen-Hornblower, Ph.D., Harvard

T. Corey Brennan, Ph.D., Harvard

Kristina Chew, Ph.D., Princeton

Serena Connolly, Ph.D., Yale

Thomas Figueira, Ph.D., Pennsylvania

John Fisher, Ph.D., Princeton

James McGlew, Ph.D., Chicago

Bice Peruzzi, Ph.D., Cincinnati

Timothy Power, Ph.D., Harvard

Jeffrey Ulrich, Ph.D., Pennsylvania

Azzan Yadin-Israel (joint appointment with Department of Jewish Studies), Ph.D., California (Berkeley)

Affiliated faculty

Debra Scoggins Ballentine (Department of Religion), Ph.D., Brown

Gary D. Farney (Department of History, Rutgers—Newark), Ph.D., Bryn Mawr

Jason Geary (Provost and Executive Vice Chancellor for Academic Affairs for Rutgers-New Brunswick), Ph.D., Yale

Charles Haberl (Department of African, Middle Eastern, and South Asian Languages and Literatures), Ph.D., Harvard

Tia M. Kolbaba (Department of Religion), Ph.D., Toronto

Gary Rendsburg (Department of Jewish Studies), Ph.D., New York University

Paola Tartakoff (Department of Jewish Studies and History), Ph.D., Columbia

Emma Wasserman (Department of Religion), Ph.D., Yale

Alessandro Vettori (Department of Italian), Ph.D., Yale

Classics 190 (SGS-CL)

Degree Requirements

Degree Requirements

Today the graduate program in Classics at Rutgers offers full- and part-time courses of study leading to the degrees of Master of Arts for Teachers, Master of Arts, and Doctor of Philosophy. Entering students are assumed to have the equivalent of at least three years of college-level Latin and two years of college-level Greek. Competency in one or more modern foreign languages at the time of matriculation is desirable.

There are six different degree tracks leading to three different degrees in the Department of Classics: M.A.T., M.A. (Classics), M.A. (Interdisciplinary Classics and Ancient History), Ph.D. (Classics), Ph.D. (Interdisciplinary Classics and Ancient History), and Ph.D. (joint program in Classics and Art History, by individual arrangement).

In special circumstances students enrolled in the M.A. or M.A.T. track may apply to the Classics Department to switch their program, or to proceed to a Ph.D. Such a request is typically made to the Graduate Director in writing after successful completion of the Master's level exams. In order to maintain their status, students enrolled in a Ph.D. program need to show continued satisfactory progress and remain in good standing based on academic comportment and fulfillment of the expectations of their courses and program.

The status of students who have entered Rutgers Classics from another graduate program is necessarily evaluated on an individual basis. Such students should expect that no more than 12 credits will be transferred from their previous institution. Students entering our program with an M.A. in Classics or a closely related field from another institution should expect to sit our M.A. exams by the end of their first year and, if successful, our Ph.D. exams by the end of the second.

Degree Requirements for the M.A., M.A.T., Ph.D.

Focusing on the interpretation of original texts in Greek and Latin, students in Rutgers Classics master the philological methods of the discipline and become familiar with the methods of such related disciplines as literary theory, ancient history, philosophy, art history, and archaeology. While the examination of the original texts is central, this program attempts to put the texts into a perspective that connects to the material culture record, shows the relevance of classics to the present day and prepares students to apply their knowledge of classics in the general humanistic tradition.

Degree Requirements for the M.A.

The M.A. candidate must demonstrate a general knowledge of the principal ancient authors and may write a thesis (equivalent to 6 credits). The M.A. student is also expected to demonstrate reading knowledge of French, German, or Italian. The M.A. comprehensive examination tests the student's knowledge of the Greek and Latin languages and literatures and draws from the material included in course work and the material on the M.A. Reading List. It consists of three hours of translation and an oral examination of general knowledge in history, literature, and philosophy. Students may take the M.A. comprehensive examination after completing 30 credits of graduate coursework (12 credits of which may be earned through enrolling in undergraduate coursework at the 300 or 400 level).

Candidates for the M.A. with Thesis option must consult with the Graduate Director as soon as is practical. They must register for Research in Classics (16:190:701, 702) for at least two semesters (at 3 credits each semester) and maintain steady progress on the thesis during that time. Guidelines for the examination and submission of the thesis are available here. The M.A. thesis is typically 50-60 pages in length. As a general rule, the M.A. thesis must be submitted as complete by 1 April of the relevant academic year.

Degree Requirements for the M.A.T.

The M.A. program in Latin for teachers (M.A.T.) is designed to assist Latin teachers in secondary schools. The candidate is expected to pass a competency examination in ancient Greek or, alternatively, to demonstrate a reading knowledge of German, French, or Italian; to complete a total of 30 credits, 12 credits of which may be earned through enrolling in undergraduate coursework at the 300 or 400 level, and 6 credits must be outside the field of Latin literature (e.g., Greek literature, ancient history, or ancient philosophy); to complete an expository or critical essay (normally in conjunction with the course work); and to pass comprehensive general knowledge and translation examinations based on course work and the reading list of Latin authors.

Degree Requirements for the Ph.D.

The Ph.D. candidate is expected to have a knowledge of all major authors; to include work beyond the Greek fifth and fourth centuries B.C. and the Republican and Augustan periods of Rome; to have an acquaintance with the inter-dependence of Greek and Roman literature and culture; to demonstrate an understanding of past and current

scholarly trends; and to undertake research in a specific aspect of classics or its related fields. Study in the program may be supplemented by work in related programs such as art history, comparative literature, history, or philosophy, according to individual interests.

The Ph.D. candidate is expected to complete at least 48 credits of coursework beyond the bachelor's degree (12 credits of which may be earned through enrolling in undergraduate coursework at the 300 or 400 level) and to demonstrate a reading knowledge of German and either French or Italian. (Students in the interdisciplinary Ph.D. in art history and classical archaeology must show proficiency in French or Italian, German, Greek, and Latin.)

The Ph.D. comprehensive examination tests the student's knowledge of the Greek and Latin languages and literatures and draws from the material included in course work and the material on the Ph.D. Reading List. It consists of three hours of translation, an oral examination of general knowledge in history, literature, and philosophy, and two examinations that allow the student to study in greater detail a special author and topic. Candidates who have completed their coursework and passed their Ph.D. comprehensive examinations should then register for research credits with their primary thesis advisor. Doctoral students are required to register for 24 credits of research toward their dissertation.

Classics 190 (SGS-CL)

Course Descriptions

Course Descriptions

Two or three of the following courses are offered each semester:

16:190:502 (S) ***Materials and Methods II (0)***
Professional development. Conference and scholarly journal submissions, the academic job search, introduction to college-level teaching.
Prerequisite: 16:190:509.

16:190:503 ***Introduction to Graduate Literary Study: Latin (3)***
Close readings and basic critical techniques of interpreting Latin literature.

16:190:504 ***Introduction to Graduate Literary Study: Greek (3)***
Close readings and basic critical techniques of interpreting Greek literature.

16:190:505 ***Studies in Classics (3)***
Topics in the field of classics selected for special study.

16:190:507,508 ***Readings in Classics (3,3)***
Readings in areas of special interest in Latin and/or Greek authors.

16:190:509 ***Proseminar: Materials and Methods (BA)***
Introduction to the discipline of classical philology. Topics covered include bibliography, lexicography, linguistics, textual history and criticism, geography, paleography, papyrology, epigraphy, and literary theory.
Prerequisites: Reading knowledge of Latin and Greek.

16:190:510 ***Hellenistic Literature (3)***
Extensive readings in the major authors of the Hellenistic Age (350-30 BC), especially those who influenced Roman literature and thought.

16:190:511 ***Greek Literature of the Roman Period (3)***
Greek authors of the Roman period (30 BC-AD 500) selected with a view to their influence on the literature and thought of the Roman Empire.

16:190:519,520,521,522 ***Latin Literature Seminar (3,3,3,3)***
Work of a different Latin author (for example, Catullus, Propertius/Tibullus, Vergil, Ovid/Petronius). Offered during Summer Session.

16:190:523 ***Seminar on Rome and Pompeii (3)***
Research and instruction at Rutgers and in Italy on Rome and Pompeii. Includes oral presentations and a paper.

16:190:525 ***Historians of Republican Rome (3)***
Critical reading of selected fragments from Roman annalistic writers, and an intensive study of the historical writings of Caesar and Sallust.

16:190:526 ***Historians of Imperial Rome (3)***
Selected major Greek and Latin texts for the history of the Roman Empire. The periods covered by Tacitus to Ammianus Marcellinus.

16:190:530 ***Aristotle: Constitution of the Athenians (3)***
Analysis of Aristotle's Athenaion Politeia and other documents pertaining to the development of Greek political institutions.

16:190:557 ***Homer (3)***
The Iliad and Odyssey in their historical, literary, and cultural backgrounds.

16:190:559,560 ***Plato (3,3)***
Several major dialogues of Plato studied with special emphasis on the philosophical problems they raise.

16:190:562 ***Attic Historiography (3)***
Greek history of the sixth and fifth centuries BC in the Greek historiographic tradition. Emphasis on detailed study of the texts, especially Thucydides.

16:190:563,564 ***Greek Drama (3,3)***
Tragedians: Aeschylus, Sophocles, and Euripides; the comedies of Aristophanes.

16:190:565 ***Herodotus (3)***
Study of the beginnings of the Greek historiographic tradition in the sixth and fifth centuries BC, with primary emphasis on Herodotus.

16:190:566,567 ***Ancient Novels (3,3)***
Greek and Roman prose fiction of the postclassical period in its literary and sociohistorical contexts.

16:190:569 ***Advanced Greek Prose Composition (3)***
Study of the styles of Attic prose of the fifth and fourth centuries and composition in the manner of select authors of classical Attic Greek.

16:190:570 ***Advanced Latin Prose Composition (3)***
Study of the stylistic development of Latin prose and composition in the manner of select classical authors.

16:190:571 ***Roman Drama (3)***
Selected works from the dramatic literature of Rome.

16:190:573 ***Ancient Comedy (3)***
Study of the conventions of Greek and Roman comedy.

16:190:575 ***Vergil (3)***
The Eclogues, Georgics, or Aeneid of Vergil, with attention to literary predecessors, cultural context, influence, and ancient and modern criticism.

16:190:579 ***Problems in Augustan Literature (3)***
Individual topics for research and criticism involving relationships among the elegiac poets, Horace, and Vergil.

16:190:612 ***Greek and Roman Biography (3)***
Study of the development of classical biography through selected works from major authors in Greek and Latin, including Xenophon, Plutarch, Nepos, and Suetonius.

16:190:614 ***Classical Epic (3)***
Comparative study of Homer, Apollonius, Vergil, and Lucan as epic poets.

16:190:620,621 ***Topics in Greek and Roman Archaeology (3,3)***
Intensive study of special Greek and Roman archaeological monuments and their significance for the literature, religion, and history of the classical civilizations.

16:190:622 ***Latin Epigraphy (3)***
Practical introduction to the study of Latin inscriptions, with emphasis on the reading, interpretation, and editing of texts on stone.

16:190:623 ***Latin Paleography (3)***
Practical introduction to the study of Latin manuscripts from the Middle Ages and Renaissance, with emphasis on the reading, interpretation, editing, and transmission of Latin texts.

16:190:624 ***The Book (3)***
Study of the relationship between the media of publication and conventions of reading in antiquity and the literary forms of classical Greek and Latin literature.

16:190:625 ***Rome in the Age of Augustus (3)***
Archaeological survey of urban planning; architectural and artistic achievements in Rome and the provinces seen in the broader perspective of Augustus's political and cultural programs.

16:190:630 ***Classical Greek Sculpture (3)***
Stylistic and thematic discussion of the works of individual sculptors and of major monuments, such as temple pediments and friezes from 480 BC to the end of the fourth century.

16:190:631 ***Roman Sculpture (3)***
The major stylistic periods of Roman sculpture in historical reliefs, sarcophagi, and portraiture from the late Republic to the age of Constantine the Great.

16:190:652 ***New Comedy and Character Study (3)***
Theophrastus's Characters and at least two plays of Menander, with emphasis on the various kinds of characters recognized in Greek literature and their relationship to plot and dramatic action.

16:190:654 ***Greek Oratory (3)***
Selected Greek public orations with emphasis on their significance in political history and their place in the development of Greek rhetoric.

16:190:655,656 ***Aristotle (3,3)***
Special philosophical problems studied in reference to Aristotle's work; emphasis on the variety of Aristotle's interests and the significance of his conceptual language.

16:190:671 ***Latin Satire (3)***
The continuity and development of satire in Greek and Latin literature. Major emphasis on the Roman satirists.

16:190:674 ***Hellenistic and Roman Philosophy (3)***
Major developments in ancient philosophy after Aristotle. Selected problems of philosophical significance in Stoic and Epicurean writings, with special reference to Lucretius, Cicero, and Seneca.

16:190:675 ***Cicero's Works (3)***
Selected orations, treatises, or letters of Cicero against the background of his private and public life, his sources in Greek and Roman thought, and his influence on later Western tradition.

16:190:677,678 ***History of Latin Literature I: The Republic (3,3)***
The origin and development of Latin literature from its birth in the third century BC to the end of the Republic.

16:190:679,680 ***History of Latin Literature II: The Empire (3,3)***
Extensive reading in the major authors of the first and second centuries of the Roman Empire, with emphasis on the continued development of poetry and prose.

16:190:681,682 ***History of Greek Literature I: Archaic and Classical (3,3)***
Extensive reading in the major authors of the Archaic period; Pindar; beginnings of tragedy and comedy.

16:190:683,684 ***History of Greek Literature II: Classical (Continued) and Hellenistic (3,3)***
Extensive reading in the major authors of the classical period not covered in 16:190:681,682 and in Hellenistic literature.

16:190:685 ***Colloquium in Ancient History (3)***
Basic critical techniques of approaching problems in ancient history.

16:190:690 *Seminar in Ancient History (3)*
Topics in the field of ancient history selected for special study.

16:190:701,702 *Research in Classics (BA,BA)*

Classics 190 (SGS-CL)

List of Courses

List of Courses

YR	TERM	COURSE	CR	TITLE	CROSS LISTING
2024	Spring	16:190:564	3.00	Greek Drama	01:490:305:01 (07770)
2024	Spring	16:190:566	3.00	Ancient Novels	
2024	Spring	16:190:575	3.00	Vergil	01:580:402:01 (07974)
2024	Spring	16:190:679	3.00	Hist Lat Lit II	
2024	Spring	16:190:702		Research in Classics	
2024	Spring	16:190:800	0.00	Matriculation Contd	
2024	Spring	16:190:811	0.00	Graduate Fellowship	
2024	Spring	16:190:877	6.00	Full Ta Appointment	
2024	Fall	16:190:559	3.00	Plato	01:490:352:01 (24354)
2024	Fall	16:190:675	3.00	Cicero's Works	01:580:304:01 (08804)
2024	Fall	16:190:681	3.00	History Greek Lit I	
2024	Fall	16:190:701		Research in Classics	
2024	Fall	16:190:800	0.00	Matriculation Contd	
2024	Fall	16:190:811	0.00	Graduate Fellowship	
2024	Fall	16:190:877	6.00	Full Ta Appointment	

Communication, Information, and Media 194 (SGS-CIM)

COMMUNICATION, INFORMATION, AND MEDIA 194

See Ph.D. Program in Communication, Information, and Media in the School of Communication and Information section of this catalog.

Comparative Literature 195 (SGS-COMPLIT)

COMPARATIVE LITERATURE 195

Degree Programs Offered: Ph.D.

Please visit the Comparative Literature website.

Rutgers Academic Building 15 Seminary Place, 4th Floor

Transcending national and linguistic boundaries, the program fosters the analysis of the complex field of relations underlying literary and critical theories, the social history of cultural production, and the relationship of literature to other fields.

In addition to theories of literature and the very possibility of comparison, our faculty teach graduate seminars and supervise projects in such areas as: East/West and North/South poetics, the practice of translation, philosophical thought, the literatures of migration and diaspora, colonial, postcolonial and decolonial thinking, environmental humanities, cultural studies, ethnic and critical race studies, film, performance and media studies, and gender, sexuality, queer and trans studies.

Faculty

Ousseina Alidou, Ph.D., Indiana

Nicola Behrmann, Ph.D., New York

Karen Bishop, Ph.D., California (Santa Barbara)

Mark Doty, M.F.A., Goddard College

Uri Eisenzweig, Ph.D., Paris

Sandy Flitterman-Lewis, Ph.D., California (Berkeley)

David Fresko, Ph.D., Stanford

Marisa Fuentes, Ph.D., California (Berkeley)

William Galperin, Ph.D., Brown

Paola Gambarota, Ph.D., Yale

Martha Helfer, Ph.D., Stanford

Allan Punzalan Isaac, Ph.D., New York

Ann Jurecic, Ph.D., Princeton

Ryan Kernan, Ph.D., California (Los Angeles)

Emrah Khayyat, Ph.D., Columbia

Jeffrey Lawrence, Ph.D., Princeton

Michael Levine, Ph.D., Johns Hopkins

Preetha Mani, Ph.D., California (Berkeley)

Jorge Marcone, Ph.D., Texas

Susan Martin-Marquez, Ph.D., Pennsylvania

Michael McKeon, Ph.D., Columbia

Anjali Nerlekar, Ph.D., Kansas

Andrew Parker, Ph.D., Chicago

Stephen Reinert, Ph.D., California (Los Angeles)

Nicholas Rennie, Ph.D., Yale

Larry Scanlon, Ph.D., Johns Hopkins

Paul Schalow, Ph.D., Harvard

Meheli Sen, Ph.D., Emory

Richard Serrano, Ph.D., California (Berkeley)

Jeffrey Shandler, Ph.D., Columbia

Ben Sifuentes-Jauregui, Ph.D., Yale

Weijie Song, Ph.D., Columbia

Michelle Stephens, Ph.D., Yale

Camilla Stevens, Ph.D., Kansas

Wendy Swartz, Ph.D., California (Los Angeles)

James Swenson, Ph.D., Yale

Emily Van Buskirk, Ph.D., Harvard

Alessandro Vettori, Dott. in Lettere, Florence; Ph.D., Yale

Janet Walker, Ph.D., Harvard

Rebecca Walkowitz, Ph.D., Harvard

Xiaojue Wang, Ph.D., Columbia

Comparative Literature 195 (SGS-COMPLIT)

Ph.D. Degree Requirements

Ph.D. Degree Requirements

Language Requirements

The knowledge of languages other than English remains a fundamental tool of the comparatist. A profound knowledge of a language and its cultural context is as much an intellectual endeavor as the study of literary texts or acquisition of theoretical approaches. For this reason, our program requires the active spoken, written and reading mastery of one language other than English and advanced reading knowledge of two additional languages other than English, whether classical or modern. By a profound knowledge and active mastery we mean that a comparatist should be able to present a formal paper at an academic conference and engage in a discussion without difficulty in that language. This requirement may be met by filing the Comparative Literature Language Proficiency Form after an interview with a Rutgers professor with the appropriate qualifications. The other two languages are considered reading and research languages. Competency in these two languages may be demonstrated by passing a translation examination offered by the Graduate School or by taking an upper division undergraduate course or graduate course taught in the target language. In addition, primary texts on the Ph.D. reading list must be read in the original language, unless this requirement is waived by the adviser with the approval of the Graduate Director.

Graduate students can advance their graduate training in a language other than English by doing one of the following:

- auditing an undergraduate language course (with authorization from the instructor);
- taking one of the courses offered at Rutgers for reading knowledge in the target language;
- taking a summer intensive language course offered at another school (our program usually provides funding for these courses through internal and external competitive funding cycles);
- taking an undergraduate-level course in the target language. Please note that the graduate school may not pay more than 3 credits for these courses. (Consult with the Graduate Director to learn what may be permitted in each case).

Please note that none of these courses replaces the requirement of passing a language exam, taking an upper-division undergraduate or graduate course in the target language, or submitting a completed a language proficiency form.

Credit Requirements, Transfer of Credits, Incompletes, GPA

Ph.D. students are required to complete 72 credits of which 48 must be graduate course credits and 24 graduate research credits. No more than 12 credits may be taken in any one semester without permission from the Graduate Director. (A full course load = 9 credits per semester.) After completing two semesters of coursework in the program, students may transfer up to 9 graduate credits from another institution subject to the approval of the adviser, the Graduate Director and the Graduate School. In most cases, students begin to register for research credits after having passed the Ph.D. qualifying exam in year three or four (see below).

Students whose work in a course remains incomplete at the end of a semester may be assigned a regular grade or, at the discretion of the instructor if there is reason to believe that an extension of time is warranted, the grade of IN. Incomplete work may be made up, and a change of grade may be authorized by the instructor, within 12 months from the time the incomplete was assigned. Students with two or more incomplete grades are not permitted to register for additional courses without permission of the graduate director. In exceptional cases, where more than one year is required to complete the course, the student, in conjunction with the instructor, must complete the Graduate Incomplete Grade Extension Form, which must be approved by the graduate director and the dean.

Students may take up to six credits of independent study. Only under exceptional circumstances, and with the permission of the Graduate Director, may this limitation be waived.

Consideration for fellowships and teaching assistantships depends on maintaining a GPA of at least 3.5, the timely elimination of incomplete grades, collegial participation in the life of the program, and consistent progress in coursework or dissertation writing.

Course Requirements

Course requirements are not obstacles but signposts along the path toward completion of the PhD (keeping in mind that comparatists often take detours and seldom take shortcuts). The student acquaints him/herself with major trends in literary theory and criticism, acquires a broad knowledge of a single national literature, and establishes profound knowledge of a particular research field.

The following courses are required for the Ph.D.:

- **01:195:501** Theory
- **01:195:502** Comparative Literature: The Discipline and the Profession
- at least 4 graduate courses in a language and literature department relevant to the student's research and teaching interests, such as: **Classics, English, French, German, Italian, or Spanish & Portuguese**.
- an intellectually coherent series of **9** graduate courses, at least **3** of which must be in Comparative Literature (in addition to 01:195:501 and 01:195:502), selected with the approval of the adviser. These courses form the intellectual foundation of a research project culminating in the dissertation.

In addition to the fields represented by the departments listed below, graduate work may also be arranged through the departments of African, Middle Eastern and South Asian Literatures and Cultures, Asian Languages and Cultures, Latino and Caribbean Studies, and Slavic and East European Languages and Literatures.

Comparative Literature 195 (SGS-COMPLIT)

Course Descriptions

Course Descriptions

Please refer to the School of Graduate Studies website for more information.

Comparative Literature 195 (SGS-COMPLIT)

Admission Deadlines

Admission Deadlines

APPLICATION TYPE	US APPLICANTS	NON-US APPLICANTS	MERIT-BASED AID
Ph.D.	January 15	January 15	January 1

Comparative Literature 195 (SGS-COMPLIT)

Advising

Advising

Students in their first semester are advised by the Graduate Director. In the second or third semester, the student chooses an adviser, who must be a member of the Core or Affiliate faculty, in consultation with the Graduate Director. Each semester the adviser sends a written report on the progress of the student to the Graduate Director. The student may, indeed, rely on the advice of other faculty as well. The adviser's primary task is to see that the student progresses smoothly through the program, meeting all requirements, preparing for exams, and establishing contact with faculty appropriate to his/her interests. Once the student determines the topic of the dissertation s/he may choose a dissertation director other than the adviser.

Comparative Literature 195 (SGS-COMPLIT)

Graduate Student Grade Appeal Process

Graduate Student Grade Appeal Process

Whenever possible, student academic appeals are handled within the graduate degree program. The student should take the issue first to the faculty member of record. If the issue cannot be satisfactorily resolved between student and instructor, the student may specify in writing the basis for the complaint and request a review by the Graduate Director. If the ensuing discussions do not resolve the issue, the student should then bring the matter to the Graduate Director (or a designate) for review. The Director (or designate) consults with the relevant parties and reaches a determination on the case and notifies the student.

If this process does not resolve the matter, it is then referred to a faculty committee for adjudication. The faculty committee will typically consist of the Graduate Director and two other faculty members who are core or affiliate in Comparative Literature. If the Graduate Director is the faculty member teaching the course in question, the Chair of the program will receive the written complaint and will convene the faculty committee for adjudication.

A written complaint about a grade for work completed while the course is in progress must be submitted to the Graduate Director no later than two weeks after notification of the grade. A student must submit a written complaint about a final course grade to the Graduate Director no later than four weeks after the end of the exam period for that term.

While action within the faculty normally is final, a student may appeal to the Graduate School–New Brunswick if he or she believes that the decision was unfair. Each case will be reviewed by a representative of the Dean of the Graduate School–New Brunswick, who attempts to informally resolve the dispute. Should the issue remain unresolved, the student is notified in writing that he or she may request that the dispute be brought to the Appeals Committee. Such a request must be made within 30 days of notification.

The Appeals Committee hears appeals that have not been resolved by the Office of the Graduate School. The student must make his or her case in writing. A written response to the student's statement will be solicited from the Director of the degree program whose action is being appealed. The committee normally bases its judgment on written submissions only. Should the committee deem it necessary, it may call upon the student and/or a faculty member (or members) for written or oral responses to questions raised by the committee. A student may request an appearance before the committee. If they believe an appearance is warranted by unusual circumstances, the committee members may allow the student to appear before them. They may, however, limit the amount of time granted, which normally will not exceed 30 minutes. The committee reports its recommendations to the dean of the Graduate School–New Brunswick, whose decision is final.

Comparative Literature 195 (SGS-COMPLIT)

Ph.D. Exam: Rationale and Description

Ph.D. Exam: Rationale and Description

The Ph.D. qualifying exam is taken after the completion of course work and language requirements. The exam is not a stand-alone event disengaged from dissertation research and writing. Rather, it is an occasion for students to begin formulating ideas and arguments that will be refined and extended in the coming months.

The Ph.D. examination has two components, written and oral. Based on a lengthy and highly individualized reading list, it is designed to test each student broadly and in depth about the major texts (including, if relevant, film and works in other media), topics, theories, and critical histories of the student’s chosen field. The reading list, composed by the student with strong input from the chair and other committee members, should include about 100 works that serve as the groundwork for dissertation research and writing. When approved by all members of the committee (usually in the semester before the exam), the list should then be filed with the Graduate Director. The committee submits three questions, of which the student answers two. The written exam takes place over a weekend, and is distributed to the student via email on a Friday at 9 am and returned on a Monday at 12 noon. Normally within two weeks, the committee meets with the student for a one-hour oral exam, the purpose of which is to explore questions raised by the written exam, as well as other topics relevant to the reading list but not covered in the written exam.

Examination Committee

The examination committee consists of three faculty members, a chair and two others. The chair should be Core Faculty in Comparative Literature and is usually the professor who has agreed to direct the student’s dissertation. Affiliate Faculty can also chair an examination committee, but only with authorization from the Graduate Director. The other members of the committee should be Core or Affiliate faculty in Comparative Literature.

The Graduate Director may grant special permission to include one exam committee member who is not on the Core/Affiliate roster, but only when Comparative Literature does not have a core or Affiliate faculty member who can assist the student in her or his areas of academic and research interests. As soon as the reading list is in place, usually at least one semester before exams are scheduled, students should submit their list to their Graduate Director.

Exam Timing and Preparation

Graduate students in Comparative Literature usually have five-year funding packages. Because of the comparative nature of course work in our field, students

entering with a B.A. may not be prepared to take their Ph.D. exam before the end of their third year in the program. By contrast, students entering with an M.A. often take their exam earlier in the third year. Since the timing of the exam thus can vary considerably within a graduate cohort, all students should meet with the Graduate Director to discuss scheduling possibilities *at the beginning of their third year.*

Exam Procedures, Written and Oral

The committee chair, in concert with the student, chooses a *Friday-Monday span for the written exam AND an oral exam date no more than two weeks later. The exam is sent to the student via email on Friday at 9 a.m., and the student returns the complete exam on Monday by noon.* Exams usually take place during the semester, including the week before and after the end of classes. Exams scheduled at other times should be approved by all the committee members and the Graduate Director. The orals must take place in the Comparative Literature seminar room, AB-4052. The Program Coordinator in Comparative Literature should be asked to reserve the seminar room for the oral exam.

The Written Exam: The committee chair solicits one question from each committee member, compiles the three questions into one document, and sends it as an email attachment to the Program Coordinator and the Graduate Director on the Thursday before the designated Friday. The document should contain these instructions:

Answer TWO of the following three questions in essay form and return them as an attachment to the Graduate Director and the Program Coordinator by noon on Monday, (day/month). Each of the essays should be between 10 and 20 pages in length. They must also be lucid, thorough, well organized, and footnoted where appropriate.

On the Monday, as soon as s/he receives the student's essays, the Program Coordinator forwards them to the exam committee chair and places a copy in the student's files. The chair then forwards the essays to the other members of the committee. Usually within two weeks, all three committee members read the essays and decide whether the student merits a pass and can go on to orals. If so, the orals date is reconfirmed.

The Oral Exam: Orals should be wide-ranging. The student may be asked to respond to the question s/he did not answer for the written exam or to questions about any of the items on the reading list. In Comparative Literature, students pass or fail their exams; we do not designate "high" or "low" pass. Special commendations can be added later to the student's file or in a letter of recommendation.

Our two-part doctoral exam, put in place when the Graduate Program was revised in 2003, has proven to be a productive and even enjoyable part of a student's graduate work at Rutgers. We hear again and again that written exams became building blocks for dissertation chapters. The oral exam has also been a positive and confirming moment of the transition to dissertation writing. Indeed, if committee members deem it appropriate, they can devote the last part of the orals to discussing the dissertation prospectus

Prospectus

The dissertation prospectus is a succinct document of no more than ten to fifteen double- spaced pages, plus an extensive bibliography. It should contain the central questions and arguments underpinning the dissertation along with a tentative chapter breakdown.

The prospectus is due usually a month after the completion of the written and oral doctoral exams. We encourage students to submit the prospectus as soon after the orals as possible with the understanding that writing, once underway, tends to modify most research plans. We want our students to move forward with their work without further delay. A copy of the approved prospectus will be included in the student's file.

Dissertation Committee

A dissertation committee typically includes four members: a director, two committee members, and an "outside" member.

The dissertation director is expected to be a Core faculty member of Comparative Literature. Affiliate faculty can direct dissertations with the approval of the Graduate Director. The dissertation committee normally includes two additional Core or Affiliate faculty members and one (or, under exceptional circumstances, two) "outside" member(s) who may be Rutgers faculty from another department or program or faculty from another university. The Graduate Director must approve any changes to the structure of the committee.

Outside committee members are intended to bring fresh perspectives to the supervision of a student's research as well as an unbiased evaluation of the quality of the work. For these reasons, they must be able to assess the dissertation without conflict of interest.

Dissertation Defense

The dissertation defense is the last exercise to complete the requirements for the doctoral degree in Comparative Literature. Defenses are scheduled in consultation with the committee members and the Graduate Director. All defenses should take place in Comparative Literature seminar room. The committee chair and the defending student must be physically present at the final examination (e.g., presence by teleconference is not acceptable). Ideally, all voting members of the committee must be present at and participate in final examinations. In special circumstances, the Graduate School will allow up to two voting members to participate via electronic communication media such as speaker-phone or video-conference link. Students wishing to take advantage of this option should seek approval from the Graduate Director.

The dissertation defense is open to the public. It begins with the doctoral candidate's presentation of the project and concludes with a round of questions posed by members of the committee and by the audience. Defenses usually take place during the semester, including the week before and after the end of classes. Defenses scheduled at other times of the year should be approved by all the committee members and the Graduate Director.

Once the defense is finished, all members of the committee should sign the Ph.D. candidacy form. In the event that the outside member is unable to attend the defense, his or her written approval or disapproval of the dissertation, prior to the defense, will be an acceptable substitute for a signature on the form. If approval is not unanimous, a letter from the dissenting member(s), in which the reasons for disapproval are briefly indicated, must accompany the dissertation. This letter shall be addressed to the Dean of the Graduate School-New Brunswick with a copy sent to the Graduate Director, all members of the committee, and to the candidate. It is strongly advised that approval of the completed dissertation and of the final examination be completed at the same time. In other words, the dissertation should be in near-final form at the time of the oral defense.

Computer Science 198 (SGS-COMPSCI)

COMPUTER SCIENCE 198

Degree Programs Offered: M.S., Ph.D.

Please visit the Computer Science website.

Graduate programs in Computer Science involve specialized study and mentored research in fundamental results and state-of-the-art techniques in computing and its applications, leading to advanced career opportunities in industry and academia.

Graduate programs give students a broad knowledge in all areas of Computer Science, and an overall perspective of the field, its structure, and its problems, as well as the opportunity to focus on specific areas spanning theoretical computer science, computer software and systems, artificial intelligence, emerging problems and cross-cutting challenges. M.S. students draw on an evolving set of concentrations (including data analytics, machine learning, systems/security, robotics and vision/visualization/graphics) to plan specialized coursework and can pursue capstone projects or an M.S. thesis in addition. Ph.D. students follow similar coursework to M.S. students, then go on to conduct innovative dissertation research in one of the department's many research groups, contributing new ideas and insights to the scientific community.

Campus Locations

Busch Campus - New Brunswick

Faculty

Mridul Aanjaneya, Ph.D., Stanford

James Abello Monedero, Ph.D., California (San Diego)

Sungjin Ahn, Ph.D., California

Sepehr Assadi, Ph.D., Pennsylvania

Pranjal Awasthi, Ph.D., Carnegie Mellon

Kostas Bekris, Ph.D., Rice

Aaron Bernstein, Ph.D., Columbia

Arpita Biswas, Ph.D., Indian Institute of Science

Abdeslam Boularias, Ph.D., Laval (Quebec)

Kristin Dana, Ph.D., Columbia

Gerard De Melo, Ph.D., Saarland (Germany)

Dong Deng, Ph.D., Tsinghua

Ahmed Elgammal, Ph.D., Maryland

Xiong Fan, Ph.D., Cornell

Martin Farach-Colton, M.D., Johns Hopkins

Jacob Feldman, Ph.D., Massachusetts Institute of Technology

David Foran, Ph.D., Rutgers

Jie Gao, Ph.D., Stanford

Sumegha Garg, Ph.D., Princeton

Apostolos Gerasoulis, Ph.D., SUNY (Stony Brook)

Marco Gruteser, Ph.D., Colorado

Stephen Jose Hanson, Ph.D., Arizona

Yipeng Huang, Ph.D., Columbia

Tomasz Imielinski, Ph.D., Poland

Jeffry Kahn, Ph.D., Ohio

Sudarsun Kannan, Ph.D., Georgia

Mubbasir Kapadia, Ph.D, California

Minsung Kim, B.E., Korea; Ph.D., Princeton

Sunyoung Kim, Ph.D., Carnegie Mellon

Janos Komlos, Ph.D., Eotvos

Ulrich Kremer, Ph.D., Rice

Casimir Kulikowski, Ph.D., Hawaii

Jang Sun (aka Karl Stratos) Lee, Ph.D., Columbia

Roie Levin, Ph.D., Carnegie Mellon

Sharon Levy, Ph.D., California (Santa Barbara)

Janne Lindqvist, Ph.D., Helsinki

Shiqing Ma, Ph.D., Purdue

Amelie Marian, Columbia

Richard Martin, Ph.D., California (Berkeley)

Peter Meer, D.Sc., Technion (Israel)

Dimitris Metaxas, Ph.D., Toronto (Canada)

Konstantinos Michmizos, Ph.D., Athens

Naftaly Minsky, Ph.D., Hebrew (Jerusalem)

Santosh Nagarakatte, Ph.D., Pennsylvania

Srinivas Narayana, Ph.D., Princeton

Badri Nath, Ph.D., Massachusetts

Thu Nguyen, Ph.D., Washington

Jorge Ortiz, Ph.D., California

Spyridon Papadimitriou, Carnegie Mellon

Periklis Papakonstantinou, Ph.D., Toronto

Minesh Patel, B.S., Texas (Austin); Ph.D., Zurich

Vladimir Pavlovic, Ph.D., Illinois

David Pennock, Ph.D., Michigan

Dipankar Raychaudhuri, Ph. D., New York (Stony Brook)

Fred Roberts, Ph.D., Stanford

Michael Saks, Ph.D., Massachusetts

Anand Sarwate, Ph.D., California (Berkeley)

Saed Sayad, Ph.D., Tehran

Patrick Shafto, Ph.D., Northeastern

Manish Singh, Ph.D., California

Vivek Singh, Ph.D., California (Irvine)

Karthik Srikanta, Ph.D., Weizmann

Matthew Stone, Ph.D., Pennsylvania

Mario Szegedy, Ph.D., Chicago

Ruixiang Tang, Ph.D., Rice

Elizabeth Torres, Ph.D., California (San Diego)

Wade Trappe, Ph.D., Maryland

Hao Wang, Ph.D., Hong Kong

Huang Wang, Ph.D., Hong Kong

Kangning Wang, Ph.D., Duke

Xintong Wang, Ph.D., Michigan

Lirong Xia , B.E., Tsinghua; M.A., Ph.D., Duke

Hui Xiong, Ph.D., Minnesota

Jingjin Yu, Ph.D., Illinois (Urbana-Champign)

Desheng Zhang, Ph.D., Minnesota

Peng Zhang, Ph.D., Georgia Tech

Qiong Zhang, Ph.D., Princeton

Yongfeng Zhang, Ph.D., Tsinghua

Zheng Zhang, Ph.D., William and Mary

He Zhu, Ph.D., Purdue

M.S. Degree Requirements

M.S. Program

The training of M.S. graduates in computer science provides students with the knowledge and skills to:

- Hold professional positions in
    - the development and design of computer systems
    - the design and implementation of new software applications
- Hold administrative positions that require planning and evaluation of computer- based systems
- Teach computer science
- Be prepared for further study and research at the doctorate level.

Because of the rapid rate of change in the field:

- Students must be well grounded in the fundamental aspects of computer science
- Be capable of learning new ideas by following the research and professional literature by adapting independently to changes in approaches, languages, and system
- Furthermore, they must have experience with computer projects of a realistic scale so as to develop confidence in their ability to think and work independently

Degree Requirements

Program Course Requirements:

- MSCS Students require 36 credits (12 courses) in total, and they must meet the following requirements:
    - Two from Category A
    - Two from Category B
    - *Four additional courses* from Category A OR Category B (M.S. Category A, and M.S. Category B).
        - *Note: Two of these additional courses must be from Category A OR Category B; the other two additional courses may be used for Essay Option (Category A or Category B) OR Thesis Option (704, 705, 706; 601, 602)*
    - Four from the list of courses acceptable for MSCS credit: approved courses from other departments, additional Category A or B courses, CS Seminars, acceptable undergraduate courses, OR independent study.
        - *Note: at most two of the four courses may be independent study.*
        - *Note: refer to the SGS and Global Policies below for online courses*
    - Essay Option (A report from project-based MSCS courses or work approved as an essay) OR Thesis Option [equivalent to 2 courses (6 credits)].
        - *Note: courses supporting the Essay or Thesis Options may also satisfy above requirements/ conditions under "Four additional courses"*

Graduation Requirements:

- Students need to maintain a minimum of 3 GPA..
- Student need to have no more than 2 Cs or lower.
- School of Graduate Studies Policies
- Rutgers Global Policies

Essay/Thesis Requirements:

In addition to the coursework requirements for the M.S. degree that are established by the School of Graduate Studies, the student must choose either the Essay Option or Thesis Option as described below. The essay or thesis must be written in English (except that some portion may require a computer language, with English documentation), it must be the student's own work, and it must demonstrate the student's facility for expository writing.

Essay Option:

- The student must write and submit an expository paper in a field of computer science that was covered in the student's course work. It may be a paper written as part of a course in computer science, or it may be based on such a course. The essay "must" be appropriately formatted and contain: Title, Author(s), Abstract, and References. A paper that has previously been submitted for a course must have received a grade of B or higher. If the essay you're planning on submitting is a group assignment, you'll need to provide cover page(s) detailing your contributions to the project along with the rest of the project report. Corresponding presentation slides are required with all essay submissions. When relevant, a video and documentation or user's manual are recommended but not required. No extra credit is given for the preparation of the essay. The essay must be approved by a member of the Graduate Faculty of the Department of Computer Science followed by the M.S. Director.

Thesis Option:

- The student must write a Master's Thesis and must register for exactly six credits of 198:704-706. Upon initial registration, the student is required to provide the MS Director with written confirmation from the faculty member agreeing to supervise their thesis.
- The Master's Thesis must be a written account of a critical and scholarly investigation in an area of computer science. It may represent: (a) a piece of independent research (extensions and improvements of work in a given part of the field are acceptable at a level of novelty which is less than that required for a doctoral thesis); (b) a work of synthesis that gives new significance and insight to previously-known results; or (c) an important constructive contribution to the development of a computer application. The thesis may not be a digest of known results from the literature, a summary of a published report, company classified or government classified material, or dependent for its background on other non-available reports. The thesis topic should be chosen by mutual agreement between the student and their faculty supervisor. The thesis must be approved by the student's thesis committee. The committee consists of the thesis supervisor and two other faculty members who are determined in consultation with the thesis supervisor. The advisor and members of the thesis committee must be members of the Graduate Faculty in Computer Science.
- In addition to submitting a copy of the completed Master's Thesis to the MS Director, the student is required to follow all thesis formatting, content, and submission guidelines from the School of Graduate Studies.

Degree Completion Processing:

[**IMPORTANT: ALL INFORMATION AND INSTRUCTIONS FOR GRADUATION FORMS/MATERIALS ARE PROVIDED IN THE APPROPRIATE CANVAS MODULES FOR MSCS**]

There are several forms that must be filled out and submitted by the appropriate deadlines in order for the student who has fulfilled the above requirements to receive a Master's Degree. It is the student's responsibility that all necessary paperwork be completed on time. Information and forms can be obtained from the M.S. Administrative Assistant

Ph.D. Degree Requirements

Ph.D. Program

Students enrolled in the Ph.D. program are expected to acquire a broad knowledge in all areas of computer science, and an overall perspective of the field, its structure, and its problems. They are expected to study at least one subfield in considerable depth, and to make substantial contributions to that subfield through creative research and serious scholarship.

Students should be able to advance the basic understanding of information processes, and to contribute to the creation and consolidation of knowledge in computer science. In addition, they should be able to see and understand new problems between different areas within computer science as well as between computer science and other fields, to find imaginative solutions for them, and to carry them through.

Summary of Requirements

A summary of the Ph.D. requirements, along with the expected timeline is given in the table below:

<table>
<tr><th>SEMESTER</th><th>BREADTH REQUIREMENT</th><th colspan="2">DEPTH REQUIREMENT</th><th>RESEARCH AND DISSERTATION</th></tr>
<tr><td>1</td><td rowspan="4">Take Courses from each of category A and B</td><td rowspan="4">Complete an independent study by the end of the 4th semester (min. 3 credits)</td><td rowspan="8">Work on completing the 12 credits for CS courses satisfying the depth requirement</td><td rowspan="4">Find a research area and advisor preferably by 2nd semester and no later than the 4th semester</td></tr>
<tr><td>2</td></tr>
<tr><td>3</td></tr>
<tr><td>4</td></tr>
<tr><td>5</td><td>Expected to complete breadth requirement by the end of the 6th semester</td><td rowspan="4"></td><td rowspan="4"></td></tr>
<tr><td>6</td><td rowspan="3"></td></tr>
<tr><td>7</td></tr>
<tr><td>8</td></tr>
<tr><td>SUMMARY</td><td colspan="3">Finish 48 credits of coursework covering breadth and depth (including at least 3 credits of independent study) and 21 credits of any CS graduate course.</td><td>Finish 24 research credits</td></tr>
</table>

During the course of the Ph.D. studies, students are expected to register for 72 credits, distributed as follows:

Breadth requirement:

- Two courses from A, and two courses from B, as listed on the webpage.

- The GPA across the four courses must be at least 3.5.

- The breadth requirement needs 12 credits.

- You must have finished your breadth requirement by the end of your 6th semester.

Depth requirement:

- Independent study of at least 3 credits (60X) by the end of the 4th semester.

- Two courses from our list of courses that can be used to satisfy our breadth requirement (no double-dipping with breadth requirement, i.e. a course cannot be used to count for the breadth and depth requirement): 6 credits in total.

- Six additional credits from courses that can be taken for graduate credit for computer science. This includes courses that can be used to satisfy our breadth requirement, seminars (67X), cross listed graduate courses with other departments, undergraduate courses that can be taken for graduate credit, and independent studies (60X).

- The depth requirement needs 15 credits.

- The qualifying exam is part of the depth requirement. You and your research advisor schedule the qualifying exam.

Research credit requirement:

- Research credits (70X) can be taken only after the depth requirement has been satisfied.

- Independent studies (60X) are considered course work, and do not count as research credits.

- The research credit requirement needs 24 credits.

Dissertation committee and proposal requirements:

- By the end of your fourth year or within one year of passing the depth requirement, whichever is later, you must have formed your dissertation committee and have your proposal approved.

- The dissertation committee consists of a) the advisor of record (a full member of the CS graduate faculty), b) two other inside members (full or associate members of the CS graduate Faculty), and c) the outside member, meeting School of Graduate Studies requirements and approved by the Graduate Program Director in Computer Science.

- Once the committee has been formed and recorded, it can be changed only by the mutual agreement of the student, current committee members, proposed (replacement) committee members, and the Graduate Program Director.

- You have to prepare a two to five page proposal document. The proposal should summarize the findings, results and planned work for the dissertation, and describe the

relationships among your published and/or submitted papers. Your proposal must be approved by your dissertation committee.

- You will need to complete a form to list the names of your committee members along with your title and abstract. Your advisor must sign off that he or she approves. Such form can be obtained by contacting the Program Coordinator.

Thesis defense:

- You and your thesis/research advisor schedule your thesis defense.

- The thesis defense can only be scheduled after the breadth, depth, dissertation committee, and proposal requirements have all been satisfied.

- There in no pre-defense presentation requirement.

Graduation requirements:

- Fulfilling the breadth requirement.

- Fulfilling the depth requirement which includes passing the qualifying exam.

- Fulfilling the dissertation committee requirement.

- Fulfilling the proposal requirement.

- Successfully passing the thesis defense and providing a copy of your thesis document.

- 24 research credits.

- 48 credits of course work. These 48 credits include the 12 and 15 credits to satisfy the breadth and depth requirements, respectively. The remaining 21 credits can be covered by any course that can be taken for CS graduate credit, which includes seminars (67X), cross listed graduate courses with other departments, undergraduate courses that can be taken for graduate credit, independent studies (60X), and courses in other departments as listed on the Graduate Course Information web page. If you are planning to take a course in another department, you need the permission of your advisor.

- All grades of courses a student has taken must average a B or better. Students can be separated from the program if they receive more than one F or more than 4 grades below a

B. A student cannot graduate if the transcript contains more than two incomplete grades.

- You are expected to graduate within 10 semesters.

- A checklist for the PhD degree requirements from the Rutgers School of Graduate Studies can be found on the Graduation and Dissertation website.

Transfer credits:

- Transfer credits of graduate courses can be used to count towards the depth requirement but not the breadth requirement. A maximum of 12 transfer credits are allowed. There are exceptions for Rutgers (New Brunswick) M.S. students who joined our Ph.D. program.

- Applications for transfer credits can be submitted anytime while enrolled in our Ph.D. program, but transfers can only be effective after having taken 9 credits, which typically is after the first year in the program.

- Each transferred course has to match a CS course, and must have been taken within the last 6 years, with a grade of B or better.

Computer Science 198 (SGS-COMPSCI)

Course Descriptions

Course Descriptions

01:198:324 ***Numerical Methods (4)***
To extend knowledge of Numerical Methods in Computing (01:198:323) by investigating special topics, varying from year to year.
Prerequisites: 01:198:323 or 01:640:373. Credit not given for this course and 01:640:374.

01:198:336 ***Principles of Information and Data Management (4)***
Describing and querying various forms of information such as structured data in relational databases, unstructured text (IR), semi-structured data (XML, web), deductive knowledge. Conceptual modeling and schema design. Basics of database management system services (transactions, reliability, security, optimization). Advanced topics: finding patterns in data, information mapping and integration. The course focuses on a user's perspective, rather than how one implements DBMS.
Prerequisites: 01:640:152; 01:198:112; 01:198:205 or 14:332:312.

01:198:415 ***Compilers (4)***
To reveal the general concepts and theoretical foundations of programming language translation and implementation. Emphasis will be placed on imperative languages. Recommended for all students interested in programming languages and techniques used to build software tools (i.e., debuggers, browsers).
Prerequisites: 01:198:211 or 14:332:331; 01:198:314.

01:198:424 ***Modeling and Simulation of Continuous Systems (4)***
To concentrate on the formulation and derivation of mathematical models of continuous dynamical systems and to analyze their simulation by means of analog and digital computers.
Prerequisites: 01:198:323 or 01:640:373 or permission from Instructor.

01:198:425 ***Brain-Inspired Computing (4)***
The course explores how computation in the human brain can be effectively modeled across the main levels of abstraction (from a single neuron to biological neural networks and system; introduces a time-sensitive computational formalization of brain function based on the model of neuron as a Spike Processing Machine – Spike Neural Networks (SNNs); and employs neuro-mimetic or neuro-inspired SNNs to tackle a problem in a term-wide project. The aim of this course is to provide the student with a solid foundation in the field.
Prerequisites: 01:198:206 and (01:640:136 or 01:640:152).

01:198:428 ***Introduction to Computer Graphics (4)***
To provide a broad introduction to the field of Computer Graphics, and to describe the techniques that are commonly used in the graphics industry today (such as in production of special effects, computer animation, 3D interactive games, and VR).
Prerequisites: 01:198:112 or 14:332:351; CALC2; 01:640:250. Credit not given for this course and14:332:474.

01:198:431 ***Software Engineering (4)***
The course studies the problems, methods, processes and tools involved in the development of large software systems that are reliable and maintainable, and meet their users' needs. This is carried out in the context of a significant, term-long multi-person team project.
Prerequisites: 01:198:213 Software Methodology, and (01:198:314 Principles of Programming Languages or 01:198:336 Principles of Information and Data Management or 01:198:352 Internet Technology or 01:198:416 Operating Systems Design) or permission of instructor.

01:198:440 ***Introduction to Artificial Intelligence (4)***
To provide a broad introduction to Artificial Intelligence. The course will cover both fundamental concepts such as search and knowledge representation, as well as applied work in areas such as planning and vision. This course is intended for both students majoring in Computer Science as well as nonspecialists with the necessary background who wish to acquire a general familiarity with Artificial Intelligence.
Prerequisites: 01:198:205; 01:640:152.

01:198:442 ***Topics in Computer Science (4)***
Advanced topics in computer science. Topics vary from year to year according to the interests of students and faculty.

01:198:443 ***Topics in Computer Science (3)***
A course for presenting advanced topics in computer science. Topics may vary from year to year according to the interest of faculty and students.

01:198:444 ***Topics in Computer Science (3)***
A course for presenting advanced topics in computer science. Topics may vary from year to year according to the interest of faculty and students.

01:198:445 ***Topics in Computer Science (3)***
A course for presenting advanced topics in computer science. Topics may vary from year to year according to the interest of faculty and students.

16:198:500 ***Proseminar in Computer Science (1)***
Required for all new full-time students in Ph.D. program. Several sections are offered each term, introducing students to research activities inside the department. Full-time students in the Ph.D. program are required to register for one credit of 01:198:500 during each of their first four semesters.

16:198:501 ***Mathematical Foundations of Data Science (3)***
Focus on the use of linear algebra and statistical conceptual tools in machine learning and data mining practice. Topics include Matrix Factorizations, Bayesian approaches to Hypothesis testing - Parameter Estimation, Kernels, Density Estimation, Gradient Descent, and Neural Networks.
Prerequisites: 198:205 (Discrete Math), 640:152 (Calculus II), 960:580 (Basic Probability) or equivalents.

16:198:503 ***Computational Thinking (4)***
Development of three important kinds of programs through hands-on case studies: an interpreter for a programming language; a web interface to a database; and a reinforcement-learning agent capable of perception, deliberation, and action. The theoretical background to such programs, including representation, complexity, and computability, and an introduction to the history and culture of the field. This course may not be taken for credit toward the M.S. and Ph.D. degrees in computer science. It is primarily intended for cognitive science students who do not have undergraduate degrees in computer science.

16:198:504 ***Computational Modeling (3)***
This course offers a hands-on introduction to computational modeling as a methodology for explaining the behavior of complex and intelligent systems. The course aims for a broad audience of graduate students who need to master computational ideas and tools for their research practice.
Note: This course may not be taken for credit toward the M.S. and Ph.D. degrees in computer science. It is primarily intended for cognitive science students who do not have undergraduate degrees in computer science.

16:198:505 ***Computer Structures (3)***
Hardware subsystems. Computer organization, memory systems, arithmetic, I/O, control, data communications, parallel processors, RISC architectures, and other topics of current interest.

16:198:507 ***Advanced Computer Architecture (3)***
Advanced Topics in computer architecture, including advanced processor design, models and workload characteristics for multiprocessor systems, memory and cache coherence and consistency, multiprocessor architecture, and I/O.
Prerequisites: 16:198:505.

16:198:508 ***Formal Language and Automata (3)***
To provide a rigorous mathematical framework for two general areas: that of language description and that of computation; to examine the relation between the two and to consider practical applications from Computer Science and Linguistics. Computability theory and complexity theory are also introduced.
Note: This course counts as category A for M.Sc. degree requirement. This course does NOT count as category A for Ph.D. students.

16:198:509 ***Foundations of Computer Science (3)***
Introduction to first-order logic, emphasizing methods used in computer science. Introduction to mathematical models of computation, especially deterministic and non-deterministic Turing machines, computability theory, and space ant time complexity theory P and NP.

16:198:510 ***Numerical Analysis (3)***
Derivation, analysis, and application of methods used to solve numerical problems with computers; solution of equations by iteration, approximation of functions, differentiation and quadrature, differential equations, linear equations and matrices, least squares. Prerequisites: Ability to program; a minimum of four semesters of undergraduate mathematics, including calculus and linear algebra.

16:198:512 ***Introduction to Data Structures and Algorithms (3)***
This course is required for all students joining the Computer Science M.Sc. program. Students from other departments can request special permission numbers provided they meet the prerequisites as stated below. The course studies a variety of useful algorithms and analyze their complexity; students will gain insight into principles

and data-structures useful in algorithm design.
Note: This course counts as category A for the M.Sc. degree requirement. This course does NOT count as category A for Ph.D. students. Ph.D. students should take 16:198:513 instead.
Prerequisites: Calculus and Discrete Math, Ch 0 of the Textbook and Chapters 1, 2, 3 of Algorithms by Dasgupta, Papadimitriou, and Vazirani, McGraw Hill.

16:198:513 ***Design and Analysis of Data Structures and Algorithms (3)***
Core material for Computer Science degree candidates. Discussion of representative algorithms and data structures encountered in applications.
Note: For M.S. students, 16:198:512. Ph.D. students can directly register for 513.
Prerequisites: Familiarity with Prim and Kruskal minimum spanning tree algorithms and Dijkstra shortest path algorithm.

16:198:514 ***Design And Analysis Of Data Structures And Algorithms II (3)***
This course goes beyond 16:198:513 in introducing the student to new concepts and techniques used in the study of algorithms. It is intended to serve students specializing in a number of different areas within computer science.
Prerequisites: 16:198:513.

16:198:515 ***Programming Language and Compilers I (3)***
This course covers concepts and techniques used in the description and definition of programming languages, and in the construction of their translators.
Prerequisites: An undergraduate data structures and algorithms course, and an undergraduate compiler course (or permission of instructor).

16:198:516 ***Programming Languages and Compilers II (3)***
This course covers advanced aspects of compilation of modern programming languages and architectures, especially global optimization transformations and compile-time analyses.

16:198:518 ***Operating Systems Design (3)***
To convey a thorough understanding of the basics of an operating system by studying techniques and algorithms for providing services in a computer system, and to understand implementation aspects of popular systems by means of case studies. This course counts as category B for M.Sc. degree requirement. This course does NOT count as category B for Ph.D. students

16:198:519 ***Operating System Theory (3)***
This course constitutes the second level in the operating systems course sequence 01:198:416 -- 01:198:519. While 01:198:416 takes a descriptive approach to convey a thorough understanding of the various operating system tasks and their interactions, this course stresses advanced concepts in operating system design including interactions with networking, and evaluation of design options for the implementation of those concepts. Its principal purpose is to present the concepts and the algorithms for providing distributed services in a computer system. Thus, the course is intended for computer science students.
Prerequisites: Must have completed undergraduate classes equivalent to 01:198:416 and 01:198:211. Graduate students without the 01:198:416 background should take 16:198:518.

16:198:520 ***Introduction To Artificial Intelligence (3)***
Overview of artificial intelligence. Basic problems and methods; deductive inference, declarative programming, heuristic search; reasoning and representation in perception, planning, and learning.
Note: Credits for this course can not be combined with 440. Students cannot get credit for both courses counting towards their M.S./Ph.D. degrees.

16:198:521 ***Linear Programming (3)***
This course introduces modeling concepts, theory, algorithms, computational strategies, and applications of linear programming (LP). The course is intended for computer science students, and students from other disciplines, such as mathematics, statistics, operations research, engineering, business administration, and economics. The material covered in this course provides the background required for reading the literature in this field. Category: A (M.S.), A (Ph.D.)

16:198:522 ***Network and Combinatorial Optimization Algorithms (3)***
This semester, 522 will examine new topics and will be taught in a graduate seminar-like format. A natural question that comes up is: How to design heuristics with provable approximation guarantees (error bounds) for specific NP-hard combinatorial optimization problems one often encounters in practice? To this end, following a review of fundamental results, the course will briefly review fast approximation schemes for large structured packing and covering LPs, and then proceed through the list of specific topics (see 2015 Class URL), starting from the simpler paradigms of greedy, local search, dynamic programming, along with appropriate rounding procedures, to the more elaborate LP-based strategies, semidefinite programming, primal-dual methods, followed by deterministic or randomized rounding schemes. The insight one gains by studying these topics often points ways to design high quality algorithms for new problems and applications. The course is intended for students in computer science and in other disciplines such as mathematics, statistics, operations research, engineering, and bioinformatics.
Prerequisites: Familiarity with discrete structures, probability theory and design and analysis of algorithms, e.g., as in 01:198:205, 01:198:206, 01:198:344 or 16:198:512 or 16:198:513; or an equivalent background, in which case, contact the Instructor for Special Permission to register. (Those with < B in 513: first obtain an SP number). Knowledge of LP duality is useful but not a prerequisite.

16:198:523 ***Computer Graphics (3)***
Introduction to computer image synthesis: modeling, animation, rendering, and geometric techniques. Topics include geometric transformations, modeling hierarchies, viewing and visibility, animation techniques, curve and surface design, lighting, shading, and ray tracing.
Prerequisites: 01:198:323, 344, 16:198:510, or 513; fluency in C or C++ .

16:198:525 ***Brain-Inspired Computing (3)***
The course explores how computation in the human brain can be effectively modeled across the main levels of abstraction (from a single neuron to biological neural networks and system; introduces a time-sensitive computational formalization of brain function based on the model of neuron as a Spike Processing Machine – Spike Neural Networks (SNNs); and employs neuro-mimetic or neuro-inspired SNNs to tackle a problem in a term-wide project. The aim of this course is to provide the student with a solid foundation in the field.
Prerequisites: 01:198:205 or 01:198:440.

16:198:526 ***Data Interaction and Visual Analytics (3)***
This class is a foundational class for Data Science within the Computer Science Department. To become proficient in the current major techniques and systems for algorithmic data analysis, exploration, visual interaction, and

summarization. Students will complete a competitive group project that will incorporate all the facets of software product development, namely Conceptualization, Data collection, Algorithm identification and Implementation, User Interface, and Evaluation.

16:198:527 ***Database Systems for Data Science (3)***
Much of the world's data resides in databases. The purpose of this course is to introduce relational and NoSQL database concepts with emphasis on both theoretical and practical learning. This course helps students learn and apply knowledge of the SQL language and implementing components of relational and NoSQL database systems (DBMS). Students will create database instances in the cloud for both relational and NoSQL database systems such as MySQL, SQL Server, Amazon Redshift, Google BigQuery and MongoDB. Through a couple of hands-on projects students will practice building and running advanced SQL scripts and Python/Java codes.
Prerequisites: This course is suitable for first year M.Sc. Students.

16:198:529 ***Computational Geometry (3)***
This course covers fundamental algorithmic problems associated with geometric computations, including convex hulls, polygons, Voronoi diagrams, triangulation, intersection, range queries, visibility, arrangements, and motion planning for robotics. It also covers algorithmic methods used in geometric computation such as plane sweep, incremental insertion, randomization, divide-and-conquer, etc. Students are expected to have undergraduate level of data structures and algorithms.

16:198:530 ***Principles of Artificial Intelligence (3)***
To provide a comprehensive introduction to current research methods in artificial intelligence. The course is appropriate both for nonspecialists who wish to acquire a strong grounding in the engineering aspects of computing with real-world data, and as a prerequisite to more advanced courses in artificial intelligence.

16:198:532 ***Foundations Of Knowledge Representation (3)***
Knowledge representation problems in AI, with an emphasis on the use of logical techniques. Computational logic. Modal logics of time, action, knowledge, and belief. Formal analysis of reasoning that is not strictly deductive (e.g., nonmonotonic reasoning, abductive reasoning). Approaches to tractable reasoning.
Prerequisites: 16:198:509, 520, or permission of instructor.

16:198:533 ***Natural Language Processing (3)***
An in-depth study of the ideas and techniques underlying the development of a computational theory of human language use, which is necessary both for practical interactive dialogue applications, as well as for the scientific study of human communication. The course is intended for computer science graduate students, as well as students in allied areas (information science, linguistics, philosophy, psychology, computer engineering) who have interests in artificial intelligence and computational linguistics.
Prerequisites: 198:530 or permission of the instructor.

16:198:534 ***Computer Vision (3)***
Provides an understanding of processes involved in formation of images of visual scenes; examines how computational approaches for transforming, estimating, or recognizing such images are formulated and implemented. Course also looks at where these methods can and have been applied. Stresses implementation and practical use of a wide variety of vision algorithms.
Prerequisite: 16:198:530 or permission of instructor.

16:198:535 ***Pattern Recognition: Theory and Applications (3)***
The principal purpose of this course is to introduce the student to the problems of pattern recognition through a comparative presentation of methodology and practical examples. The course is intended for computer science students with an applied mathematics orientation, and also for students in other programs (computer and electrical engineering, statistics, mathematics, psychology) who are interested in this area of research. It is also recommended for students who plan to work in the area of biomedical applications of computers.

16:198:536 ***Machine Learning (3)***
An in-depth study of machine learning, to impart an understanding of the major topics in this area, the capabilities and limitations of existing methods, and research topics in this field.
Prerequisites: 16:198:530 or 16:198:520.

16:198:538 ***Complexity of Computation (3)***
The course presents the main results of computational complexity theory, including complexity classes, reducibilities, and complete sets. Relationships between time and space complexity, between serial and parallel computation, and among deterministic, probabilistic, and nondeterministic computation. Complexity theoretic notions of randomness.
Prerequisites: 16:198:513 and 16:198:509 (or equivalent) are useful.

16:198:539 ***Database Management Systems (3)***
Implementing components of relational database systems (DBMS): record storage, indexing structures, query evaluation, joins algorithms, query optimization. Understanding and administering a DBMS: security, concurrency control and crash recovery. Tuning DBMS for performance. Recent advances in data management : text-based information retrieval, web search, cloud computing, column store systems. This class focuses on data management from a database administrator's, or implementer's, perspective.

16:198:540 ***Combinatorial Methods in Complexity Theory (3)***
Lower bounds in circuit, communication, and proof complexity. Interactive proof systems, approximation, and consequences.
Prerequisites: 16:198:509, 513.

16:198:541 ***Advanced Data Management (3)***
This course focuses on advanced topics in Database Management Systems and Web Data, chosen from: distributed databases, object-oriented DBMS, active databases, deductive databases, data mining, conceptual modeling, query processing, information retrieval, web search, data integration, NoSQL.
Prerequisites: 16:198:513 or 16:198:512; knowledge of logic (as can be gained in 16:198:509); an undergraduate-level database course.

16:198:543 ***Massive Data Storage, Retrieval and Deep Learning (3)***
In today's world of massive amounts of data, new methods and techniques are needed to dive deeper into such data including hands-on practical work on real data sets. This course covers the major existing algorithmic primitives necessary for the processing of "massive" data sets in external memory and data streaming settings. It also introduces various deep learning frameworks and corresponding neural methods in a variety of application areas. Students have the opportunity to gain experience with major platforms for storage and retrieval, including Hadoop Distributed File Systems and Data Streaming with Apache Spark. The focus of one "large data" project is on techniques for information retrieval, natural language processing, and the necessary indexing methods for the retrieval of semantically relevant information. A second "large data" project focuses on the application of a deep

learning framework to an application area of each student's choice. This class is related to CS541 (graduate databases) and to CS539 (physical databases) – but it is much systems oriented and focused on practical hands on aspects of storing, processing, and managing massive amounts of structured and unstructured data.
Prerequisites: Basic familiarity with data structures and algorithms (like the one provided in CS512), mathematical foundations and probability theory (CS501), and data base foundations (like CS527 and/or CS539). Some of the tools to be used require knowledge of Python, C++, Java, or Scala. Other examples will be based on Apache Spark. However, prior knowledge of Spark (using Scala) is not required but certainly it will not be harmful.

16:198:544 ***Computer Security (3)***
The course covers both classic topics, such as applied cryptography, authentication, authorization and basic security principles, as well as recent topics such as Web security and virtual machines for security. The course will also involve several assignments that require the student to think both as an attacker and as a defender.
Prerequisites: 16:198:518.

16:198:545 ***Distributed Systems (3)***
This course will cover the basic mechanisms for building distributed systems (e.g., RPC, synchronization, transactions, etc.), a number of relevant subsystems of distributed operating systems (e.g., distributed file systems, distributed shared-memory systems, etc.), and issues in wide-area distributed systems (e.g., security, wide-area clustering, etc.).
Prerequisites: 16:198:519.

16:198:546 ***Computer System Security (3)***
This course will cover both classic, foundational topics in computer security as well as recent developments. A key goal of the course will be to educate students to think both as an attacker and as a defender. The focus of the course will be security of computer systems, and will complement CS537, which focuses on distributed systems security.

16:198:547 ***The Security and Dependability of Distributed Systems (3)***
This course will cover the twin issues of security and dependability of distributed systems. Here are some of the questions we will explore:

(1) How can the actors of a multi-agent system collaborate effectively, without having any trust in each other?

(2) How can one create an effective social network without a Facebook like central mediator?

(3) Can one protect large organization (like Rutgers, or like a defense establishment) from DDoS attacks?
Prerequisites: No specific courses are required. But undergraduate level exposure to distributed computing, discrete mathematics and theory of algorithms is expected.

16:198:549 ***Artificial Intelligence for Visual Computing (3)***
This course will introduce students to recent trends in Artificial Intelligence for applications to visual computing. Visual computing is a sub-field of Computer Science which broadly encompasses areas including but not limited to: Computer Graphics, Computer Vision, Virtual and Augmented Reality, and Interactive Techniques. As part of this course, students will therefore be exposed to concepts in Artificial Intelligence which directly apply to one or more of these topic areas.
Prerequisites: Proficiency in one or more of the following areas: Artificial Intelligence, Computer Graphics, Computer Vision, Machine Learning, Robotics.

16:198:550 ***Massive Data Mining (3)***
This class is recommended for students interested in pursuing a concentration in Massive Data Analytics or Machine Learning. Students will learn algorithms to store, process, mine, analyze, and synthesize streaming data, or data at rest that does not fit in Random Access Memory. The material covered here equips students with the main backend algorithms and infrastructure necessary for the completion of the required Capstone Project for M.S. graduation with a Massive Data Analytics concentration.
Prerequisites: CS 512 or CS 513 (Fundamental Algorithms)

- Linear Algebra, Basic Probability (Moments, Typical Distributions, MLE)
- Programming Languages: C++/Java
- Infrastructure: Hadoop Cluster

Prerequisites: CS 512 or CS 513 (Fundamental Algorithms).

16:198:551 ***Ubiquitous Computing (3)***
The course includes discussion of contributions of various fields to ubiquitous computing, including Internet-of-Things, Data Science, AI, Human-Computer Interaction, Embedded Computing, Real-time Systems, Machine Learning, Privacy, and Security. Students will gain practical experience in developing sensing, learning, and decision-making systems in different application domains such as Smart Cities, Smart Home, Autonomous Driving, and Gig Economy.

16:198:552 ***Computer Networks (3)***
This course provides students with a thorough understanding of the basic principles of computer networks, the design philosophy of scalable internetworks, and the details of computer network protocols. Students who complete this course will learn not only how network protocols work but why they are designed the way they are. They will also learn how to implement an event-driven computer network simulator and use it as a tool to study the behavior and performance of network protocols.

16:198:553 ***Design of Internet Services (3)***
The course introduces students to advanced topics in Internet services , especially those that relate to application layer services and infrastructure services. The course will enable students to understand tools required to deploy Internet scale services, in terms of their operations and management requirements. It will also enable them to design new Internet services in a manner that is scalable, available and efficient. Topics to be covered include: Serverless architectures, Scaling and Elasticity, Storage services, KEY Value stores, Virtualization services and containers, Cluster management and Coordination services , monitoring and analytics services.

16:198:554 ***Capstone Project I (3)***
This class is the first in a hands on approach sequence focused on building systems that process data at scale. First priority is given to students in the MSDS professional program. The systems built will be evaluated based on three criteria: Feasibility, Usefulness and Novelty. A panel formed by industry professionals and faculty, will judge the completed projects. Best project awards will be given and their creators will be invited to present them in an annual Industry-Faculty gala ceremony. Emphasis will be on Interface development, large scale analysis and sense making.
Prerequisites: Languages: C/C++, Java, JavaScript, Python; CS554-Capstone I (Interface Concentration): 16:198:512 or 16:198:513(Algorithms), 16:198:526(DIVA), 16:198:527 or 16:198:539 (Data Bases or equivalent). A class on Computer Graphics and Vision (01:198:428 or equivalent) may be useful but it is not required.

16:198:555 ***Capstone Project II (3)***
This is the second class in a sequence. It is a hands on approach, for students in the MSDS professional program, to build working systems that process data at scale. The systems built will be evaluated based on three criteria: Feasibility, Usefulness and Novelty. A panel formed by industry professionals and faculty, will judge the completed projects. Best project awards will be given and their creators will be invited to present them in an annual Industry-Faculty gala ceremony. The first capstone class focus on Interface development and the second concentrates on large scale analysis and sense making.
Prerequisites: Languages: C/C++, Java, JavaScript, Python
16:198:554, 16:198:543 (Massive Data Storage and Retrieval), 16:198:550(Massive Data Mining)/16:198:535(Pattern Recognition) or 16:198:550(Massive Data Mining)/16:198:536(Machine Learning) , or 16:198:535/16:198:536(Pattern Recognition-Machine Learning).

16:198:560 ***Introduction to Computational Robotics (4)***
This course provides a general introduction to robotics from a computational perspective with a focus on mobile robots. This includes the use of popular software for interacting with and simulating robots, such as the Robot Operation System (ROS). It will provide a view of robots as autonomous agents with a mechanical embodiment, which must observe and act upon their surroundings through the iterative execution of a sensing-planning-actuation loop. On the sensing and perception side, the course will cover state estimation challenges, such as robot localization, simultaneous localization and mapping (SLAM), as well as Bayesian solutions to these problems, such as Kalman and particle filters. For planning and decision making purposes, the course will introduce basic planning and replanning methods, such as A* and D*-like algorithms, the configuration space abstraction, sampling-based planners, and a toolbox of algorithms that solve problems by utilizing these principles. Extensions to multi-robot systems, online planning and handling uncertainty will be touched upon as well. On the control side, the course will offer an introductory coverage of robot kinematics and dynamics, as well as foundational algorithms for trajectory following (e.g., PID).

16:198:562 ***Advanced Robotics (3)***
198:562 provides comprehensive coverage of mathematical and algorithmic foundations of robotics, particularly motion planning, grasping and manipulation with an emphasis on data-driven and machine learning tools used in modern robotics. The focus will be on how robots can acquire new behaviors and adapt to their environment through learning.
Prerequisites: 16:198:520/536, 16:198:560.

16:198:580 ***Topics in Computer in Biomedicine (3)***
This course surveys computational methods in biology or medicine: topics vary from instructor to instructor and may include computational molecular biology, medical reasoning, and imaging. See semester-specific web pages for details.
Prerequisites: 16:198:520 or 16:198:513, depending on the semester, or permission of the instructor.

16:198:583 ***Topics in Software Design (3)***
This course is intended to lead into research in the areas of distributed systems and software engineering. The seminar deals with various issues concerning the design, construction and evolution of large scale software systems, covering both sequential as well as distributed and parallel systems. Among the issues to be discussed are:

Modern programming paradigms, especially Object-Oriented Programming.
Programming Environments.

The (locally developed) concept of Law-Governed architectures.
Open distributed systems.
* Various topics in operating systems.

Other topics may be included, depending on the interest of the participants. The seminar will include talks by the instructor, by several guests and by the students.

16:198:590 ***Socially Cognizant Robotics (3)***
Students of the "Socially Cognizant Robotics" course will learn basic principles and state-of-the-art developments of robotics so as to learn the expected trajectory of this technology and its impact on individuals and society. The course is designed for both STEM students as well as computationally-oriented cognitive and social science students. The interdisciplinary curriculum has seven underlying disciplines spanning STEM fields to social and behavioral sciences. It includes traditionally technical disciplines, such as robot embodiment and control, and extends to areas which support human interaction, such as visual learning and language processing, to cognitive modeling, which enables more high level human-robot cooperation, and finally to areas such as behavioral research and public policy. The course will utilize open-source software libraries in robotics, computer vision, and deep learning. Recent innovations at the intersection of deep reinforcement learning and human behavior modeling will be explored in the context of optimizing collaborative robot action.

16:198:596 ***Topics in the Foundations of Computer Science (3)***
Careful study of papers on the topic selected for the given semester. The topic will be announced at the time of registration. An example of a recent topic: quantum computation.

16:198:598 ***Topics in Artificial Intelligence (3)***
A special topics course covering particular areas of research in Artificial Intelligence.

16:198:601 ***Selected Problems In Computer Science (3)***
This course is to be used as a means for an individual student, or a small number of students, to work with a professor on a topic of their choosing. It can also be used for non-thesis research, or proto-research that may help students in selecting Ph.D. advisors. All full-time Ph.D. students are required to register for an independent study course by at least their third semester of study.

When registering for independent study as a Ph.D. student use 16:198:601, 602, or 603 depending on semester offered. Select the unique section for the professor within that course. (This is done alphabetically by first initial of last name) Also, it is necessary to fill out a form, so that the department can keep track of which student is doing an independent study with which professor. This form will be sent to you electronically once you are registered. It will be sent via Docusign. Note that the department does not impose any limitations on the number of independent study credits that can be applied toward a degree. With regard to the amount of 600 credits that a student can take, in the Ph.D. program they can only take the difference up to 48 credits after they completed their required A's and B's.
Note: Open Only to Ph.D. Students.

16:198:602 ***Selected Problems In Computer Science (3)***
This course is to be used as a means for an individual student, or a small number of students, to work with a professor on a topic of their choosing. It can also be used for non-thesis research, or proto-research that may help students in selecting Ph.D. advisors. All full-time Ph.D. students are required to register for an independent study

course by at least their third semester of study.

When registering for independent study as a Ph.D. student use 16:198:601, 602, or 603 depending on semester offered. Select the unique section for the professor within that course. (This is done alphabetically by first initial of last name) Also, it is necessary to fill out a form, so that the department can keep track of which student is doing an independent study with which professor. This form will be sent to you electronically once you are registered. It will be sent via Docusign.

Note that the department does not impose any limitations on the number of independent study credits that can be applied toward a degree.

With regard to the amount of 600 credits that a student can take, in the Ph.D. program they can only take the difference up to 48 credits after they completed their required A's and B's.
Note: Open Only to Ph.D. Students.

16:198:603 ***Selected Problems in Computer Science (3)***
his course is to be used as a means for an individual student, or a small number of students, to work with a professor on a topic of their choosing. It can also be used for non-thesis research, or proto-research that may help students in selecting Ph.D. advisors. All full-time Ph.D. students are required to register for an independent study course by at least their third semester of study.

When registering for independent study as a Ph.D. student use 16:198:601, 602, or 603 depending on semester offered. Select the unique section for the professor within that course. (This is done alphabetically by first initial of last name) Also, it is necessary to fill out a form, so that the department can keep track of which student is doing an independent study with which professor. This form will be sent to you electronically once you are registered. It will be sent via Docusign.

Note that the department does not impose any limitations on the number of independent study credits that can be applied toward a degree.

With regard to the amount of 600 credits that a student can take, in the Ph.D. program they can only take the difference up to 48 credits after they completed their required A's and B's.
Note: Open Only to Ph.D. Students.

16:198:604 ***Selected Problems in Computer Science (3)***
This course is to be used as a means for an individual student, or a small number of students, to work with a professor on a topic of their choosing. It can also be used for non-thesis research, or proto-research that may help students in selecting MS. advisors. All full-time M.S. students are required to register for an independent study course by at least their third semester of study. When registering for independent study as a M.S. student use 16:198:604, 605, or 606 depending on semester offered. Select the unique section for the professor within that course. (This is done alphabetically by first initial of last name) Also, it is necessary to fill out a form, so that the department can keep track of which student is doing an independent study with which professor. This form will be sent to you electronically once you are registered. It will be sent via Docusign.

Note that the department does not impose any limitations on the number of independent study credits that can be applied toward a degree. A master's student can take a total of 6 credits of 604, 605, 606.
Note: Open Only to M.S. Students.

16:198:605 ***Selected Problems in Computer Science (3)***
This course is to be used as a means for an individual student, or a small number of students, to work with a professor on a topic of their choosing. It can also be used for non-thesis research, or proto-research that may help students in selecting MS. advisors. All full-time M.S. students are required to register for an independent study course by at least their third semester of study. When registering for independent study as a M.S. student use 16:198:604, 605, or 606 depending on semester offered. Select the unique section for the professor within that course. (This is done alphabetically by first initial of last name) Also, it is necessary to fill out a form, so that the department can keep track of which student is doing an independent study with which professor. This form will be sent to you electronically once you are registered. It will be sent via Docusign.
Note that the department does not impose any limitations on the number of independent study credits that can be applied toward a degree. A master's student can take a total of 6 credits of 604, 605 and 606.
Note: Open Only to M.S. Students.

16:198:606 ***Selected Problems in Computer Science (3)***
his course is to be used as a means for an individual student, or a small number of students, to work with a professor on a topic of their choosing. It can also be used for non-thesis research, or proto-research that may help students in selecting MS. advisors. All full-time M.S. students are required to register for an independent study course by at least their third semester of study. When registering for independent study as a M.S. student use 16:198:604, 605, or 606 depending on semester offered. Select the unique section for the professor within that course. (This is done alphabetically by first initial of last name) Also, it is necessary to fill out a form, so that the department can keep track of which student is doing an independent study with which professor. This form will be sent to you electronically once you are registered. It will be sent via Docusign.
Note that the department does not impose any limitations on the number of independent study credits that can be applied toward a degree. A master's student can take a total of 6 credits of 604, 605 and 606.
Note: Open Only to M.S. Students.

16:198:607 ***Problems In Numerical Methods (1-3)***
(Note: This course has not been offered for several years.) This course is intended for advanced graduate students (Computer Science majors as well as students from other disciplines) who wish to advance their knowledge in specific areas of the application of numerical methods. This may be taken by interested students in conjunction with 198:527 (Computer Methods for Partial Differential Equations).

16:198:608 ***Problems In Numerical Methods (1-3)***
This course is intended for advanced graduate students (Computer Science majors as well as students from other disciplines) who wish to advance their knowledge in specific areas of the application of numerical methods. This may be taken by interested students in conjunction with 198:527 (Computer Methods for Partial Differential Equations).

16:198:671 ***Seminar in Computer Science (3)***
Special topics in computer science.

16:198:672 ***Seminar in Computer Science (3)***
Special topics in computer science.

16:198:673 ***Seminar in Computer Science (3)***
Special topics in computer science.

16:198:674 ***Seminar in Computer Science (3)***
Special topics in computer science.

16:198:701 ***Research in Computer Science (1-12)***
The course numbers 701, 702 and 703 are used by graduate students for their Ph.D. thesis research work. There is one section of 701/702/703 for each member of the graduate faculty.
A Ph.D. student must have a least 24 credits of 701-2-3 taken toward writing a Ph.D. thesis. Ph.D. students should not register for 701-2-3 until they have passed their qualifying exams. Students receive a "grade" of S or U for their research credits.
Note: Open only to Ph.D. students.

16:198:702 ***Research in Computer Science (1-12)***
The course numbers 701, 702 and 703 are used by graduate students for their Ph.D. thesis research work. There is one section of 701/702/703 for each member of the graduate faculty.
A Ph.D. student must have a least 24 credits of 701-2-3 taken toward writing a Ph.D. thesis. Ph.D. students should not register for 701-2-3 until they have passed their qualifying exams. Students receive a "grade" of S or U for their research credits.
Note: Open only to Ph.D. students.

16:198:703 ***Research in Computer Science (1-12)***
The course numbers 701, 702 and 703 are used by graduate students for their Ph.D. thesis research work. There is one section of 701/702/703 for each member of the graduate faculty.
A Ph.D. student must have a least 24 credits of 701-2-3 taken toward writing a Ph.D. thesis. Ph.D. students should not register for 701-2-3 until they have passed their qualifying exams. Students receive a "grade" of S or U for their research credits.
Note: Open Only to Ph.D. Students.

16:198:704 ***Research in Computer Science (1-6)***
The course numbers 704, 705 and 706 are used by graduate students for their M.S. thesis research work. There is one section of 704/705/706 for each member of the graduate faculty.
A master's student takes a total of 6 credits of 704, 705, 706 for preparing a Master's thesis (not essay). Apart from this situation, a student cannot count any 704, 705, 706 credits towards a Master's degree. Students receive a "grade" of S or U for their research credits.
Note: Open Only to M.S. Thesis Students.

16:198:705 ***Research in Computer Science (1-6)***
The course numbers 704, 705 and 706 are used by graduate students for their M.S. thesis research work. There is one section of 704/705/706 for each member of the graduate faculty.
A master's student takes a total of 6 credits of 704, 705, 706 for preparing a Master's thesis (not essay). Apart from this situation, a student cannot count any 704, 705, 706 credits towards a Master's degree.
Students receive a "grade" of S or U for their research credits.
Note: Open Only to M.S. Thesis Students.

16:198:706 ***Research in Computer Science (1-6)***
The course numbers 704, 705 and 706 are used by graduate students for their M.S. thesis research work. There is one section of 704/705/706 for each member of the graduate faculty.
A master's student takes a total of 6 credits of 704, 705, 706 for preparing a Master's thesis (not essay). Apart from

this situation, a student cannot count any 704, 705, 706 credits towards a Master's degree.
Students receive a "grade" of S or U for their research credits.
Note: Open Only to M.S. Thesis Students.

16:198:800 ***Matriculation Continued (0)***
This makes it possible for a student to take a semester's leave of absence. The student must make a formal request to the Director of the Program by filling out a form. Permission will almost never be granted for more than two semesters. Once the student has obtained departmental approval, he must register for 198:800. The Graduate School does not allow students who have passed the Ph.D. qualifying exam to take Matriculation Continued. Such students must be registered for at least 1 credit of thesis research (701-2) each semester.

Computer Science 198 (SGS-COMPSCI)

Application Requirements

Application Requirements

M.S. program

- Unofficial transcripts (from all previous universities)
- 3 letters of recommendation
- GRE scores
- TOEFL/IELTS score
- Resume
- Any certificates of completion for courses that do not appear on transcripts

Ph.D. program

- Unofficial transcripts (from all previous universities)
- 3 letters of recommendation
- Personal statement
- Curriculum vitae
- GRE scores are optional
- TOEFL/IELTS score for international applicants

Computer Science 198 (SGS-COMPSCI)

Admission Deadlines

Admission Deadlines

Admission Deadlines

For best consideration apply by these dates

Ph.D. deadlines:

Fall only applicants: January 1st for both US and non-US citizens. Applicants for the Spring semester are typically not accepted.

M.S. deadlines:

Fall International Deadline: February 1 Fall Domestic Deadline: March 1

Spring International Deadline: September 15 Spring Domestic Deadline: October 15

East Asian Languages and Cultures 217 (SGS-EALC)

EAST ASIAN LANGUAGES AND CULTURES 217

Degree Programs Offered: M.A.

Visit the East Asian Languages and Cultures website.

Students may choose from a wide and coherent curriculum including the following humanities disciplines in East Asian studies: literature, visual culture, history, religion, language and linguistics. This master's degree program draws on the strengths of a faculty with nearly twenty members working on various aspects of East Asian studies who have made major scholarly contributions to the field.

Graduate Program in East Asian Languages and Cultures

Welcome to the Graduate Program in East Asian Languages and Cultures at Rutgers, The State University of New Jersey, which offers exceptional academic opportunities for advanced study of the civilizations of China, Japan, and/or Korea leading to the M.A. and M.A.T. degrees. Our graduate program offers a wide and coherent curriculum including the following humanities disciplines: literature, visual culture, history, religion, anthropology, language and linguistics. Rutgers has long been a national leader in the humanities, ranked as #9 by *Times Higher Education* (U.K.) in 2012.

Centered at the New Brunswick campus of Rutgers University, our graduate program draws on the strengths of a distinguished faculty with nearly twenty members working on various aspects of East Asian studies. Our faculty members work closely with students and tailor their mentoring to each student's intellectual and professional needs. Our balanced and flexible curriculum encourages students to shape their own programs while acquiring a comprehensive knowledge of an East Asian civilization. In addition, students may take courses at Princeton University through our graduate school consortium.

Rutgers offers extensive resources to support graduate research. Rutgers is a member of the Association of American Universities—the nationwide consortium of leading research universities—as well as the prestigious Committee on Institutional Cooperation, whose membership includes all Big Ten institutions and the University of Chicago. Research on East Asian studies at Rutgers is supported by the East Asian Library, which has extensive collections and resources for Chinese, Japanese and Korean studies.

Faculty

Young-mee Cho, Ph.D., Stanford

Jessey Choo, Ph.D., Princeton

Jae Won Chung, Ph.D., Columbia

Tao Jiang, Ph.D., Temple

Jaehyun Jo, Ph.D., California (Los Angeles)

Suzy Kim, Ph.D., Chicago

Sukhee Lee, Ph.D., Harvard

Peng Liu, Ph.D., Columbia

Xun Liu, Ph.D., Southern California

Hieu Phung, Ph.D., Hawaii

Satoru Saito, Ph.D., Columbia

Weijie Song, Ph. D., Columbia

Wendy Swartz, Ph.D., California (Los Angeles)

Haruko Wakabayashi, Ph.D., Princeton

Xiaojue Wang, Ph.D., Columbia

Yuan-Chen Jenny Yang, Ph.D., Yale

East Asian Languages and Cultures 217 (SGS-EALC)

Degree Requirements

Degree Requirements

The completion of 30 credits (a minimum of 10 courses) is required of all students pursuing a master's degree in Asian Languages and Cultures.

M.A. in East Asian Languages and Cultures

• All students must take "Pro-seminar I: Critical Approaches to East Asian Studies" when it is offered. This methodology course will familiarize students with the critical approaches and theoretical paradigms useful to analyzing East Asian history, religion, literature, and/or linguistics in a comparative framework.

• All students must take "Pro-seminar II: Research Methodology" when it is offered. This course is designed to aid students in learning to utilize both traditional and newer research resources (e.g., electronic databases) and in developing strategies for writing their master's paper. Students will also have the opportunity to discuss their research work and comment on each other's work in a dynamic, interactive setting.

• Students may choose elective courses in their field of interest for the remaining credits.

Upon completion of all required coursework, each student will take a final examination, in consultation with the student's advisor.

Offerings

Courses are taught by full-time faculty members committed to teaching and advising. Small classes enable extensive and personal interaction between students and faculty.

Course Offerings include:

- History of Chinese Literature
- Tang Poetry
- Nature in Chinese Literature
- Classical Chinese Poetry and Poetics
- Early China in the World
- The Silk Road: A History of Cultural and Material Exchanges
- Woman and gender in east Asia Religiosity
- Modern Chinese Literature and Film
- Cold War Chinese Literature & Film
- Cultural Memory in Contemporary China
- The City in Modern Chinese Literature & Film
- Chinese Martial Arts Film Culture
- Chinese Dialects and Sociolinguistics
- The Tale of Genji as World Literature
- Japanese Film
- Japanese Popular Culture
- North Korea in the Socialist and Post-Socialist World
- Social Movements and Civil Society in South Korea
- Teaching Korean as Foreign Language
- Advance Topics in Korean Language & Linguistics
- Critical Approaches to East Asian Studies
- Interdisciplinary Topics in East Asia
- Asian Language Pedagogy

Course Descriptions

Course Descriptions

16:217:501 ***Pro-Seminar I: Critical Approaches to East Asian Studies (3)***
Key paradigms in comparative literary, historical, and cultural studies of East Asia.

16:217:502 ***Pro-Seminar II: Research Methodology (3)***
Graduate research tools, methods, and primary sources in East Asian Studies.

16:217:505 ***Academic Writing in East Asian Studies (3)***
Graduate-level academic writing, argument development, and source synthesis.

16:217:510 ***History of East Asian Writing Systems (3)***
East Asian writing systems, literacy, print culture, and digital transformations.

16:217:511 ***The Silk Road: A History of Cultural and Material Exchanges (3)***
Silk Road networks, cultural exchange, and Eurasian identities across history.

16:217:512 ***Interdisciplinary Topics in East Asia (3)***
Modern Asian cultures examined through literature, cinema, history, media, and interdisciplinary perspectives.

16:217:515 ***Women in Pre-Modern China (3)***
Women's roles and representations in premodern Chinese society and texts.

16:217:517 ***Women and Gender in East Asia Religiosity (3)***
Gender, body, and religious belief in East Asian traditions.

16:217:520 ***History of Chinese Literature: Beginnings to 1300 (3)***
Genres, contexts, and concepts of literature in premodern China.

16:217:521 ***History of Chinese Literature: 1300 to 1900 (3)***
Literary genres and works of Ming–Qing China in historical context.

16:217:525 ***Nature in Chinese Literature (3)***
Conception, perception, and literary representation of nature in early and medieval China.

16:217:526 ***Classic of Poetry (3)***
Introduces the *Classic of Poetry*, its exegetical traditions, and major strands of modern scholarship.

16:217:527 ***Topics in Classical Chinese Poetry and Poetics (3)***
Major poetic genres of Han through Six Dynasties, emphasizing close reading, genre conventions, and historical context.

16:217:528 ***Tang Poetry (3)***
Close reading of Tang poetry, genre conventions, poets, and historical context.

16:217:529 ***Early China in the World (3)***
Chinese cosmography and epistemology shaping cultural identity from antiquity to medieval times.

16:217:531 ***Readings in Modern Chinese Literature (3)***
Modern Chinese-language literature exploring culture, history, politics, identity, and imagination across regions.

16:217:532 ***Cold War Chinese Literature & Film (3)***
Cultural Cold War in Chinese-language literature, film, music, radio, and migration.

16:217:533 ***The City in Modern Chinese Literature & Film (3)***
Chinese cities in modern literary and cinematic imagination and cultural representation.

16:217:534 ***Cultural Memory in Contemporary China (3)***
Cultural memory and historical imagination in contemporary Chinese-speaking communities.

16:217:537 ***Chinese Martial Arts Film Culture (3)***
Wuxia traditions, auteur reinventions, and global circulation from Cold War to present.

16:217:550 ***North Korea in the Socialist and Post-Socialist Worlds (3)***
Historical study of North Korean revolution, society, ideology, and global positioning.

16:217:555 ***Seminar on Modern Korean History (3)***
Advanced seminar on key debates and emerging research in modern Korean history.

16:217:560 ***Teaching Korean as Foreign Language (3)***
Overview of Korean as Foreign Language pedagogy, standards, curriculum design, teaching portfolio.

16:217:565 ***Advance Topics in Korean Language & Linguistics (3)***
Phonology, morphology, writing systems, dialects, pragmatics, and divergence between Koreas.

16:217:570 ***The Tale of Genji as World Literature (3)***
Close reading of *The Tale of Genji* as Japanese courtly romance, world literature, and women's writing.

16:217:577 ***Japanese Film (3)***
Japanese cinema examined historically, culturally, and aesthetically through major directors' works.

16:217:579 ***Seminar on Japanese Popular Culture (3)***
Explores Japanese popular culture via manga, anime, television, integrating cultural analysis and advanced Japanese language practice.

East Asian Languages and Cultures 217 (SGS-EALC)

Department Graduate Faculty

Department Graduate Faculty

Faculty members have a strong research profile and have published widely in their fields.

Young-mee Cho—Korean Linguistics

Jessey Choo—Chinese History and Religion

Jae Won Chung—Korean Literature

Jaehyun Jo—Korean Linguistics

Suzy Kim—Korean History

Peng Liu—Chinese Literature

Hieu Phung—Vietnamese and Southeast Asian History

Satoru Saito—Japanese Literature

Weijie Song—Chinese Literature

Wendy Swartz—Chinese Literature

Haruko Wakabayashi—Japanese History

Xiaojue Wang—Chinese Literature

Jenny Yang—Chinese Linguistics and Pedagog

See the Graduate Programs in Asian Languages and Cultures brochure.

Ecology and Evolution 215 (SGS-EE)

ECOLOGY AND EVOLUTION 215

Degree Programs O◆ered: M.S./Ph.D

Visit the Ecology and Evolution website.

Mission Statement

The Ecology and Evolution Graduate Program at Rutgers University aims to foster a diverse environment rich in critical thinking and open communication. We are committed to mentoring the next generation of scientists to solve 21st century problems and be stewards to our planet.

About the Program

Ecology and Evolution at Rutgers has a long and distinguished history. The E&E graduate program includes approximately 80 faculty and 50 graduate students. The program faculty is comprised of roughly 25 professors who are members the undergraduate Department of Ecology, Evolution, and Natural Resources, the remaining members of the graduate program hail from other departments and campuses. The graduate program is interdisciplinary in nature and offers graduate education and training in microbial, plant, animal, and human ecology under the direction of outstanding faculty located at three campuses (New Brunswick, Newark, and Camden); two marine stations (in Tuckerton and Bivalve); and the Cary Institute for Ecosystem Studies in Millbrook, New York.

Members of the faculty actively pursue research in conservation biology, ecosystem ecology, evolutionary biology, marine biology, microbial ecology, population and community ecology, population genetics, and restoration ecology.

Students may study toward either M.S. or Ph.D. degrees. An M.S. is not required to enter the Ph.D. program. The graduate program falls under the auspices the School of Graduate Studies from which the final degrees are conferred.

Faculty

Myla Aronson, Ph.D., Rutgers

Christina Bergey, Ph.D., New York

Debashish Bhattacharya, Ph.D., Simon Fraser

Kay Bidle, Ph.D., California (San Diego)

Juan Bonachela, Ph.D., Granada

Joanna Burger, Ph.D., Minnesota

David Bushek Ph.D. Rutgers

Chi Chen, Ph.D., Boston

Siobain Duffy, Ph.D., Yale

Paul Falkowski, Ph.D., British Columbia

Dina Fonseca, Ph.D., Pennsylvania

Heidi Fuchs, Ph.D., Massachusetts Institute of Technology

Frank Gallagher, Ph.D., Rutgers

Anthony Geneva, Ph.D., Rochester

Angelica Gonzalez, Ph.D., Pontificia Universidad Catolica

Robert Goodman, Ph.D., Cornell

Jason Grabosky, Ph.D., Cornell

Thomas Grothues, Ph.D., Stony Brook (SUNY)

Ximing Guo, Ph.D., Washington (Seattle)

Max Haggblom, Ph.D., Helsinki

Claus Holzapfel, Ph.D., Goettingen

Lily Khadempour, Ph.D., Wisconsin

Josh Kohut, Ph.D., Rutgers

Richard Lathrop, Jr., Ph.D., Wisconsin (Madison)

Benjamin Lintner, Ph.D., California (Berkeley)

Richard Lutz, Ph.D., Maine

Rohan Maddamsetti, Ph.D., Michigan

Michael Manhart, Ph.D., Rutgers

Brooke Maslo, Ph.D., Rutgers

Marci Meixler, Ph.D., Cornell

Peter Morin, Ph.D., Duke

Daphne Munroe, Ph.D., British Columbia

Tetsuya Nakamura, Ph.D., Osaka (Japan)

Anne Nielsen, Ph.D., Rutgers

Steward Pickett, Ph.D., Illinois

Victoria Ramenzoni, Ph.D., Georgia

Mark Robson, Ph.D., Rutgers

Cesar Rodriguez-Saona, Ph.D. California (Riverside)

Gareth Russell, Ph.D., Tennessee

Kimberly Russell, Ph.D., Tennessee

Allison Salisbury, Rutgers

Erin Sauer, South Florida

Karina Schafer, Ph.D., Duke

Donald Schaffner, Ph.D., Georgia

Oscar Schofield, Ph.D., California (Santa Barbara)

Christopher Solomon, Ph.D., Wisconsin

Lena Struwe, Ph.D., Stockholm (Sweden)

Costantino Vetriani, Ph.D., Rome (Tor Vergata)

Erin Vogel, Ph.D., Stony Brook

Kathleen Weathers, Ph.D., Rutgers

James White, Ph.D., Texas

John Wiedenmann, Ph.D., California (Santa Cruz)

Rachael Winfree, Ph.D., Princeton

Douglas Zemeckis, Ph.D., Massachusetts (Dartmouth)

Ning Zhang, Ph.D., Louisiana

Degree Requirements

Degree Requirements

Two levels of study are available. The Ph.D. requires a minimum of 72 credits (30 in coursework, 42 in research), successful completion of a qualifying examination, and the successful defense of a dissertation based on original research. The M.S. requires 30 coursework credits. The M.S. with thesis requires 30 credits (24 coursework, 6 research) and the defense of a thesis reporting original research; this option is encouraged.

Course Descriptions

Course Descriptions

16:215:507 ***Advanced Plant Systematics (4)***
Broad, evolutionary overview of all vascular plants, from club mosses and ferns to conifers and flowering plants. Principles of classification and field identification, morphology, and basic concepts in evolutionary studies in botany. Independent project.

16:215:508 ***Advanced Plant Systematics Lab (1)***
Developing skills in plant ID, learning vouchering techniques, phylogentic analysis, and understanding macroevolutionary patterns in morphology and species diversification. Digital and online tools and resources will be strongly emphasized.

16:215:520 ***Landscape Ecology (3)***
Spatial patterning, its causes, development, and relevance to ecological systems. Conceptual and theoretical framework of landscape ecology; quantitative and modeling tools.

16:215:550 ***Advanced Evolution/Journal Club (1)***
Journal club in evolution including examination of major elements of organismal evolutionary theory. Emphasis on phylogenetics, genetic variation, natural selection, adaptation, and speciation. Demonstration of methodology and software programs.

16:215:565 ***Community Dynamics (4)***
Patterns and processes involving sets of two or more coexisting species. Theoretical and empirical studies.

16:215:575 ***Quantitative Ecology and Evolution (3)***
Application of differential equations and linear algebra to specific ecological phenomena (e.g., growth, competition, predator/prey). Dynamic modeling of simple (three- and four-component) ecosystems; students develop their own models.

16:215:582 ***Controversies in Sustainability (3)***
This course will use online materials (articles, papers, podcasts, video, etc.) to examine controversial topics related to sustainability like climate change, natural gas drilling, renewable energy, and others. Discussions will provide a forum for debate and further examination of the issues.

16:215:585 ***Terrestrial Ecosystem Monitoring and Modeling (3)***
key concepts in terrestrial ecosystem dynamics, focusing on vegetation canopy carbon-water coupling, energy processes, stomatal and resource optimizations from leaf to global scales. Reviews global carbon and energy cycles. Discusses the capabilities and limitations of satellite

16:215:587 *Urban Ecology (3)*
This course provides an overview of ecology in and of cities, including responses of organisms to urbanization, socio-ecological linkages, and urban planning and design as it relates to biodiversity.

16:215:590 *Population Ecology (4)*
A basic understanding of the biology of single species populations is an essential part of ecological literacy. This course will use a "hands on" approach combining real world examples and data together with explorations of model populations using R to provide insights about basic population processes and quantitative approaches. Topics will include continuous-time and discrete-time population growth models, estimation of population growth rates, survivorship analysis, life tables, age- and stage-specific population projection matrices, complex population dynamics in simple and stage-structured populations, alternate population models, population viability analysis, metapopulation dynamics, SIR models, and simple models of interspecific interactions.

16:215:599,600 *Special Topics in Ecology (BA)*
Topics vary every semester. Current listing can be found on the online scheduling system.

16:215:601 *Advanced Ecology (3)* Required Course
Overview of ecology field including biodiversity, biogeography, animal behavior, community ecology, landscape ecology, marine ecology, theoretical ecology, global change ecology, and conservation. Designed to prepare students for taking graduate exams.

16:215:602 *Seminar in Ecology (3)* Required Course
Overview of evolution field including paleobiology, systematics, biogeography, molecular evolution, population genetics, evolutionary theory, and the evolution of behavior, disease, and sex/gender. Designed to prepare students for taking graduate exams.

16:215:603,604 *Special Topics in Ecology (BA)*
Topics vary by semester. Current listings can be found on the online scheduling system.

16:215:605,606 *Advanced Problems in Ecology (BA)*
Individual study in an area of expertise of the faculty.

16:215:609 *Seminar Series (1)*
Advanced Problems in Ecology (BA)Provides graduate students with exposure to current research and professional topics through attendance at the department’s weekly seminar series, featuring presentations by faculty, visiting scholars, and industry professionals. One credit may be earned per semester, up to four total credits.

16:215:650 *Fundamentals of Ecosystem Ecology (4)*
Critical review of ecosystem ecology, including biogeochemical cycles and budgets, ecosystem energetics, the theory and history of ecosystem ecology, and the response of ecosystems to disturbance. Meets at the Institute for Ecosystem Studies during Winter Session.

16:215:701,702 *Research in Ecology (BA)*
Register by advisor’s name for research credits to fulfill degree requirements. 701 is fall registration, 702 is spring and summer registration.

Course List

Course List

COURSE SYNOPSES	SEMESTER	COURSE DISTINCTION
16:215:507 Advanced Plant Systematics (3)	Fall	Evolution
16:215:508 Advanced Plant Systematics Lab (1)	Fall	Evolution
16:215:520 Landscape Ecology (3)	Fall [even years only]	Ecology
16:215:550 Advanced Evolution (Journal Club) (1)	Fall/Spring	Evolution
16:215:564 Wildlife Ecology and Conservation	Fall	
16:215:565 Community Dynamics (4)	Spring	
16:215:575 Quantitative Ecology and Evolution (3)		
16:215:585 Introduction to Ecological and Environmental modeling (3)	Fall [odd years]	Fall Quantitative
16:215:587 Urban Ecology (3)	Spring [even years]	
16:215:590 Population Ecology (4)	Fall [even years]	
16:215:599;600;603;604 Special Topics in Ecology (BA)	Varies from Year to Year	Mathematical and Ecology
16:215:600:02 Computational Methods in Theoretical Biology	Fall (Every)	Evolution, Quantitative
16:215:601 Advanced Ecology (3)	Fall	
16:215:602 Advanced Evolution (3)	Spring	
16:215:605 /16:215:606 Problems in Ecology (BA)	Fall and Spring	
16:215:609:01 Seminar in Ecology (1)	Fall and Spring	
16:215:650:01 Fundamentals of Ecosystem Ecology (4)	Winter	
16:215:701,702 Research in Ecology (BA)	Fall/Spring	

Ecology and Evolution 215 (SGS-EE)

Graduate Courses In Other Programs

Graduate Courses In Other Programs

COURSE SYNOPSES	SEMESTER
16:681:572 Microbial Ecology and Diversity (3)	Spring
01:960:401 Basic Statistics for Research (3)	Fall/Spring
16:960:565 Applied Time Series Analysis (3)	Spring
34:970:591 Introduction to GIS for Planning and Policy (3)	
16:186:855 Introduction to College Teaching (0)	
16:186:856 Designing Your Own Course (0)	
16:712:560 History of the Earth System (3)	Fall
16:370:525/16:215:599 Insect Ecology (3)	Spring Even Years
16:920:577 (16:378:502:01, 01:920:492:04) Environmental Sociology	
16:115:556 Ethical Scientific Conduct (1)	
16:195:502 Comparative Literature: The Discipline and Spring the Profession (3)	
34:970:618 Environmental Planning and Management (3)	Fall

Ecology and Evolution 215 (SGS-EE)

The Inter-University Doctoral Consortium

The Inter-University Doctoral Consortium

In addition to the courses taught by members and associates of the ecology and evolution program, there are many other courses of interest to ecology and evolution graduate students offered by the programs in anthropology, biochemistry and molecular biology, entomology, environmental sciences, geography, geological sciences, plant science and statistics, among others. Please browse all programs that may have courses of interest to you. Check with your advisor and the program director to verify that courses you choose will be counted towards your degree.

Ecology and Evolution 215 (SGS-EE)

New Brunswick Campus

New Brunswick Campus

- Anthropology
- Biochemistry and Microbiology
- Entomology
- Environmental Sciences
- Geography
- Earth and Planetary Sciences Undergraduate (Be sure to use the "G" prefix to receive graduate credit.)

- Earth and Planetary Sciences Graduate
- Human Ecology Undergraduate (Be sure to use the "G" prefix to receive graduate credit.)
- Marine Sciences and Oceanography
- Molecular Biosciences
- Plant Biology
- Statistic

Ecology and Evolution 215 (SGS-EE)

Rutgers-Newark and New Jersey Institute of Technology (NJIT) Federated Departments of Biological Sciences

Rutgers-Newark and New Jersey Institute of Technology (NJIT) Federated Departments of Biological Sciences

- Cell and Molecular
- Ecology and Evolution
- Computational Biology

Economics 220 (SGS-ECON)

ECONOMICS 220

Degree Programs O◆ered: M.A./Ph.D.

Please visit the Economics website.

Steven W. Barnett, Ph.D., Michigan

Jacob Bastian, Ph.D., Michigan

Hector Blanco, Ph.D., Massachusetts Institute of Technology

Michael Cai, Ph.D., Northwestern

Zhifeng Cai, Ph.D., Minnesota

Colin Campbell, Ph.D., Northwestern

Oriol Carbonell-Nicolau, Ph.D., New York University

Roberto Chang, Ph.D., Pennsylvania

Carlos Esquivel, Ph.D., Minnesota

Joseph Fry, Ph.D., Colorado (Boulder)

Ira Gang, Ph.D., Cornell

Gary Gigliotti, Ph.D., Columbia

Joseph Hughes, Ph.D., North Carolina (Chapel Hill)

Jennifer Hunt, Ph. D. Harvard

Yanhong Jin, Ph.D., California (Berkeley)

Rosemary Kaiser, Ph.D., Wisconsin (Madison)

Todd Keister, Ph.D., Cornell

Roger Klein, Ph.D., Yale

Douglas Kruse, Ph.D., Harvard

John Landon-Lane, Ph.D., Minnesota

Cheng-few Lee, Ph.D., New York (Buffalo)

Jae Won Lee, Ph.D., Princeton

Yuan Liao, Ph.D., Northwestern

Peter Loeb, Ph.D., Rutgers

Andrew Mackenzie, Ph.D., Rochester

Daniel Maggio, Ph.D., Cornell

Kenwin Maung, Ph.D., Rochester

Richard McLean, Ph.D., New York (Stony Brook)

Bruce Mizrach, Ph.D., Pennsylvania

Carolyn Moehling, Ph.D., Northwestern

Daijiro Okada, Ph.D., New York (Stony Brook)

Oded Palmon, Ph.D., Chicago

Anne Piehl, Ph.D., Princeton

Carl Pray, Ph.D., Pennsylvania

Thomas Prusa, Ph.D., Stanford

Martin Saavedra, Ph.D., Pittsburgh

Hilary Sigman, Ph.D., Massachusetts Institute of Technology

John Sjostrom, Ph.D., Rochester

Barry Sopher, Ph.D., Iowa

Norman Swanson, Ph.D., California (San Diego)

Bingxiao Wu, Ph.D., Northwestern

Ruonan Xu, Ph.D., Michigan

Xiye Yang, Ph.D., Amsterdam

Economics 220 (SGS-ECON)

M.A. Requirements

M.A. in Economics – Degree Requirements

The Master of Arts (M.A.) in Economics is a 30-credit program housed in the Department of Economics and governed by the regulations of the School of Graduate Studies (SGS). Students must complete all degree requirements with an overall GPA of at least 3.0 and in accordance with SGS policies.

Program Structure

The M.A. in Economics is offered in two tracks: an Economic Data Analytics Track and a Doctoral Preparation Track. Each track requires 30 credits of graduate coursework, including 18 credits of common core courses and 12 credits that differ by track. Completion of the degree requires a minimum of one year of full-time study, and students typically finish in three semesters.

Credit and Grade Requirements

All degree candidates must complete 30 credits of graduate coursework, with all credits taken in Economics unless specific transfer credit has been approved. Each course carries 3 credits, and students must earn an overall GPA of at least 3.0 for all M.A. coursework, with no more than 9 credits carrying a grade of C or C+. Per SGS rules, master's candidates may not count more than 3 grades of C toward the degree, and satisfactory academic progress standards apply as described in the program's academic standing policy.

Core Course Requirements (18 credits)

All M.A. students, regardless of track, must complete 18 credits of required core coursework:

- Introduction to Mathematical Economics (Econ 551)
- Introduction to Econometrics (Econ 552)
- Computational Methods for Research in Economics (Econ 560)
- Advanced Microeconomic Theory (Econ 585)
- Advanced Macroeconomic Theory (Econ 586)
- One of the following econometrics electives: Econometrics II (Econ 608), Applied Econometrics for Microeconomics (Econ 609), or Applied Econometrics for Macroeconomics (Econ 610).

These core requirements total 18 credits and provide the common analytical foundation for both tracks.

Track-Specific Requirements

Economic Data Analytics Track

Students in the Economic Data Analytics Track complete:

- The 18 credits of common M.A. core courses listed above.
- 12 additional elective credits, which must be Economics courses and are typically chosen from a set of data-focused offerings such as: Economic Data Science / Elements of Machine Learning Methods (Econ 570/424), Economic Forecasting and Big Data (Econ 571/421), Seminar in Applied Econometrics (Econ 716), Econometrics I (Econ 607), Econometrics II (Econ 608), Financial Economics I (Econ 630), Financial Economics II (Econ 631), Advanced Cross-Sectional and Panel Econometrics (Econ 422), Advanced Time Series and Financial Economics (Econ 423), Advanced Analytics for Economic Data (Econ 424), and Networks and Complexity in Economics (Econ 644).
  Additional electives in computational and econometric methods may be added over time, and students may also draw some electives from the doctoral-preparation list with approval.

Doctoral Preparation Track

Students in the Doctoral Preparation Track complete:

- The 18 credits of common M.A. core courses listed above.
- 12 credits of required Ph.D.-level coursework, normally taken in the third semester with first-year Ph.D. students:
  - Mathematical Methods for Microeconomics (Econ 600)
  - Microeconomic Theory I (Econ 601)
  - Macroeconomic Theory I (Econ 604)
  - Advanced Economic Statistics (Econ 606).

Students in this track who intend to apply to segue into the Rutgers Economics Ph.D. program must take Econ 600, 601, 604, and 606 as a package in their third semester. Students who do not plan to segue may, with approval, substitute one Ph.D.-level elective (such as Economics of the Labor Market (Econ 620), Public Finance I (Econ 624), International Economics I (Econ 628), Uncertainty and Imperfect Information (Econ 641), Topics in Game Theory (Econ 642), or Networks and Complexity in Economics (Econ 644)) in place of Econ 606.

Writing Requirement

In addition to coursework, all M.A. students must complete a writing requirement in the form of an expository master's essay in a field of economics covered in their coursework.

The writing requirement consists of an expository master's essay that demonstrates the student's ability to synthesize and clearly present economic analysis on a topic related to their coursework. The essay is typically based on a term paper written for a regular course, an independent study, or an approved internship project, and it must be formally approved by a member of the graduate faculty in Economics to satisfy the requirement. The essay must receive a grade of B or better (or the equivalent evaluation for non-graded formats) in order to count toward the writing requirement.

Registration and Full-Time Status

Students normally register for at least 9 credits per term to maintain full-time status until completing the 30 required credits. All 30 credits must be in Economics courses, with the exception of any approved transfer credits; students in the Doctoral Preparation Track may, in some cases, register for only 6 credits in the second semester in light of the required 12-credit loads in the first and third semesters.

Transfer Credit

Up to 9 graduate credits not previously used to satisfy the requirements of another graduate degree may, upon individual review and approval, be transferred toward the M.A. in Economics. Transfer credits may be posted only after the student has completed 9 credits in the M.A. program with grades of B or better, and all transfer requests must follow SGS procedures and be approved by the Graduate Program Director and SGS.

Degree Completion

To receive the M.A. degree, students must:

- Satisfy all course, credit, GPA, and writing requirements described above.
- Be registered (for coursework or Matriculation Continued) in the term in which the degree is conferred, except for some October degree cases as defined by SGS.
- File an online diploma application by the appropriate SGS deadline for the intended degree date (October, January, or May).

Economics 220 (SGS-ECON)

Ph.D. Requirements

Ph.D. in Economics – Degree Requirements

The Ph.D. in Economics is a 72-credit program in the Department of Economics, consisting of 48 credits of coursework and 24 credits of research, and is governed by the regulations of the School of Graduate Studies (SGS). Students must complete all degree components described below, satisfy qualifying examination and research milestones, and remain in good academic standing under departmental and SGS rules.

Overall Program Structure

The Ph.D. requires at least four years of full-time study, including at least one year devoted primarily to research; most students complete the degree in five to six years. SGS requires completion of the Ph.D. within seven years of initial enrollment, except under special circumstances with explicit permission. Students must register for at least one credit each fall and spring until graduation, including research registration after coursework is completed or nearly completed.

Coursework Requirements (48 credits)

Students must complete 48 credits of graduate coursework, with no more than 3 grades of C counting toward this requirement under SGS rules. The Economics Department's good-standing policy is stricter and allows no more than 6 credits (two courses) with a grade of C+ or worse in all coursework taken.

Required coursework includes:

- Mathematical methods:
  - Mathematical Methods for Microeconomics (Econ 600).
- Economic theory (4 courses):
  - Microeconomic Theory I and II (Econ 601, 602).
  - Macroeconomic Theory I and II (Econ 604, 605).
- Quantitative economics (2 courses):
  - Advanced Economic Statistics (Econ 606).
  - Econometrics I (Econ 607).
- Applied econometrics (1 course):
  - Applied Econometrics for Microeconomics (Econ 609) or Applied Econometrics for Macroeconomics (Econ 610).
- Economic history (3 credits):
  - One approved economic history course.

In addition, students must:

- Successfully complete two field requirements (two approved courses in each field, with a minimum grade of B+ in every field course).
- Complete three additional elective courses (9 credits), at least at the 600–700 level, with at least 12 of the total elective credits in Economics.

Research Credits (24 credits)

Students must complete 24 credits of Research in Economics, which are graded Satisfactory, Unsatisfactory, or Incomplete. After finishing or nearly finishing coursework, students register for research credits with their primary research advisor each fall and spring (and often in summers when holding teaching assistantships) until degree completion. Students file a Research Progress Report each term they enroll in research credits.

Qualifying Examinations

To qualify for the doctoral degree, students must pass two written qualifying examinations, selected from microeconomics, macroeconomics, and econometrics. Students take these exams in the summer following the first year, after completing Microeconomic Theory I and II, Macroeconomic Theory I and II, Advanced Economic Statistics, and Econometrics I.

Students:

- Must sit for both chosen exams in the same exam period.
- Are allowed two attempts at each of the two selected exams, with exams typically offered in May and June of the same year.
- Must pass two exams within the prescribed time frame to remain eligible for the Ph.D.; limited additional retake opportunities may be available only by approved petition.

Second-Year Research Paper

Students begin the research phase with a second-year research paper, which is an original research project typically started in the spring of the second year. The paper often builds on coursework from the second year, must be approved and supervised by a faculty advisor, and is submitted in stages (proposal, first draft, final paper) on set deadlines. The paper is evaluated by faculty reviewers and the Graduate Awards and Standards Subcommittee and must receive at least a passing grade (or conditional pass with successful revision) to satisfy this requirement.

Field Requirements

Each student must complete two advanced fields; each field consists of two related graduate courses (600- or 700-level) with a minimum grade of B+ in each field course. Fields are chosen from department-approved lists (e.g., Econometrics, Industrial Organization, Labor, Public Economics, Development, International, Applied Micro, Macroeconomics, Financial Economics, Micro Theory, Economic History, Experimental Economics), and individualized fields may be constructed with prior approval from the Graduate Program Director. A single course may count toward only one requirement (e.g., it may satisfy either the applied econometrics requirement or be part of a field, but not both).

Dissertation Requirements

Dissertation Proposal

By the first Friday of the fourth year, students must submit a written dissertation proposal, approved and signed by their advisor and reviewed by the Graduate Director. The proposal outlines the research objectives, methodology and data, literature and references, and a timetable for completion of the dissertation's chapters. Approval of the proposal is a prerequisite for admission to candidacy.

Dissertation and Defense

The doctoral dissertation is an original investigation of an economic problem that makes a meaningful contribution to knowledge in the discipline. Students work under the guidance of a dissertation committee consisting of at least three members of the Economics graduate faculty (including a full-member chair) and one approved outside member from another program or institution. Students must:

- Conduct independent research with regular faculty input.
- Present research at least once in a departmental workshop.
- Prepare the dissertation in a format consistent with the SGS Electronic Thesis and Dissertation (ETD) guidelines and submit it through ProQuest.
- Successfully defend the dissertation in an oral examination before the full committee.

Admission to Candidacy

Students apply for admission to candidacy for the Ph.D. once they have:

- Passed the two required qualifying examinations.
- Completed all required coursework, field requirements, and the second-year research paper.
- Obtained approval of the dissertation proposal.

To do so, they complete the official SGS Application for Admission to Candidacy for the Ph.D., which is signed by the Graduate Director, designated qualifying-exam committee members, and the student's research advisor, and then submitted to SGS.

Academic Standing and Registration

To remain in good academic standing, Ph.D. students must:

- Complete the full first-year core (Econ 600, 601, 602, 604, 605, 606, 607) with grades of B or better by the end of the first year.
- Maintain a cumulative GPA of at least 3.0 in all coursework, with no more than 6 credits of C+ or worse.
- Take at least 9 credits of coursework each semester of the second year, unless an exception is approved by the Graduate Program Director.
- Pass two qualifying exams within the required time; meet prescribed deadlines for the second-year paper and dissertation proposal; and avoid Unsatisfactory grades in research credits.

All students normally register for at least 9 credits per term during the coursework phase, and then for research credits each term once coursework is completed or nearly completed. Registration is required in the term of degree conferral (with limited exceptions for October degrees under SGS rules).

Course Descriptions

Course Descriptions

M.A. Courses

16:220:551 ***Introduction to Mathematical Economics (3)***
In this course, you will learn about mathematical tools used in economics. Main aim is to bridge a gap between undergraduate level and graduate level math used in economics. Each topic is motivated by appropriate economic examples from microeconomics, macroeconomics, and econometrics. The course is suitable for MA students with background in economics and other quantitative subjects (mathematics, statistics, computer science, physics etc.). Major topics covered in this course are:

- Linear Algebra (Theory of Matrix and Vector Spaces).
- Convex Analysis (Concave and Convex Functions).
- Calculus of Optimization (Lagrange's Method, Kuhn-Tucker Formulation).
- Introduction to Real Analysis in Euclidean Spaces.
- Introduction to Dynamic Programming.

16:220:552 ***Introduction to Econometrics (3)***
Econometrics is concerned with formulating, estimating, and testing economic relationships. In this course, we will first review the linear model and then turn to non-linear models. In linear models, the marginal impact of a variable is constant. For example, in a standard wage equation, the return to education is the same for all levels of education. In studying survival with cancer using a linear model, we would be assuming that the impact of a cancer treatment does not depend on patient characteristics. In both cases, we could employ different models for different types of

individuals or employ non-linear models to avoid the questionable constant marginal impact assumption. We will consider both possibilities in this course. We will also consider issues of causality in linear and non-linear contexts. In so doing it will be important to consider binary response models where treatment or policy effects are binary.
Prerequisite: 16-220:551 or permission of instructor.

16:220:560 ***Computational Methods for Research in Economics (3)***
Master's level course in computational methods. The primary goal of this course is to equip students with the numerical skills necessary to tackle interesting research questions in economics. The course introduces a computer programming language used in economics, introduces computational methods and algorithms used in computational economics, and applies these methods to a variety of models. Topics will include simulation methods for computational general equilibrium models in microeconomics and dynamic programming methods for large scale dynamic macroeconomic models.
Prerequisite: 16-220:551 or permission of instructor.

16:220:570 ***Economic Data Science (3)***
The course is designed for students whose objective is to attain working knowledge of widely-used machine learning and related data science techniques and methods used for modeling and forecasting. This is an upper level course and so will be taught at an advanced level. Good understanding of the material taught in the prerequisite courses for this class is essential for doing well in this course. Some of the areas that the course focuses on include: understanding the basics of forecasting using economic and financial data; constructing forecasts, forecast confidence intervals, and predictive densities; analyzing and utilizing high dimensional and high frequency data sets and modeling with a large number of potential explanatory variables; and understanding and implementing dimension reduction, shrinkage, and related machine learning methods.
Prerequisite: 16-220:551 or permission of instructor.

16:220:571 ***Economic Forecasting and Big Data (3)***
The main purpose is to introduce you to time series analysis and forecasting. You will learn the classic time series models, including the ARIMA models in the univariate case, VAR/VECM models in the multivariate case, and the conditional variance (GARCH) models. You will learn how to model stationary and non-stationary (mainly unit-root-type) time series, and how to distinguish these two cases. In addition, you will also be introduced to some recent development in times series analysis, including the state space models and machine learning methods.
Prerequisite: 16-220:551 or permission of instructor.

16:220:585 ***Advanced Microeconomic Theory (3)***
This course uses the tools of neoclassical microeconomic analysis to study consumer and producer interaction in perfectly and imperfectly competitive markets. Emphasis is placed on market failures and economic rationales for welfare-improving policy interventions.
Prerequisite: 16-220:551 or permission of instructor.

16:220:586 ***Advanced Macroeconomic Theory (3)***
This course is an introduction to main problems and advanced methods in macroeconomics, with emphasis on dynamic analysis. Topics include aggregate business fluctuations, long run economic growth, and the role and impact of macroeconomic policy. By the end of the course, you will have learned main theories developed to understand these issues and will be able to apply current mathematical, computational, and statistical tools to study the impact of shocks on aggregate fluctuations and long run growth.
Prerequisite: 16-220:551 or permission of instructor.

Ph.D. Core Courses

16:220:600 ***Mathematical Methods for Microeconomics (3)***
Basic mathematical tools for consumer and producer theory. Topics include compact sets, differentiability, convex sets, separation theorems, constrained optimization and the Kuhn-Tucker theorem, applications in consumer and producer theory.
Prerequisite: Calculus and Linear Algebra, or 16-220:551, or permission of instructor.

16:220:601 ***Microeconomic Theory I (3)***
General equilibrium theory; the Arrow-Debreu model, decision making under uncertainty; the Von-Neumann Morgenstern theory, risk aversion, applications to insurance problems and portfolio choice, applications to competitive equilibrium with uncertainty.
Prerequisite: 16-220:600, or (16-220:551 and 16-220:585), or permission of instructor.

16:220:602 ***Microeconomic Theory II (3)***
Introduction to the theory of games and related economic models with informational asymmetries. Topics include non-cooperative games and models of moral hazard and adverse selection.
Prerequisite: 16:220:601.

16:220:603 ***Quantitative Methods for Macroeconomics (3)***
Basic mathematical tools for dynamic economic models. Topics include linear algebra from echelon form to projection operators, quadratic forms, linear difference and differential equations, dynamic programming and control theory, applications to dynamic models of macroeconomics, growth and human capital.
Prerequisite: Calculus and Linear Algebra.

16:220:604 ***Macroeconomic Theory I (3)***
Introduction to economic dynamics, economic growth, business cycles, and the role of macroeconomic policy.
Prerequisite: 16-220:603 or (16-220:551, 16-220:560, and 16-220:586), or permission of instructor.

16:220:605 ***Macroeconomic Theory II (3)***
General equilibrium modeling of the macroeconomy. Topics will include the stochastic growth model and multiple equilibrium. Empirical validation will also be stressed.
Prerequisite: 16:220:604.

16:220:606 ***Advanced Economic Statistics (3)***
The purpose of the course is to build a sound background in statistical inferential procedures that are used in economic data analyses. Sampling theory and Bayesian viewpoints will be presented. Topics include probability, random variables and distributions, estimation, testing hypotheses, and sampling distribution of estimators.
Prerequisite: Calculus and Linear Algebra, or (16-220:551 and 16-220:552), or permission of instructor.

16:220:607 ***Econometrics I (3)***
Statistical estimation and inference of regression equation models. Properties of OLS, GLS, JGLS, 2SLS, 3SLS, and Maximum Likelihood Estimators. Introduction to time series analysis and qualitative response models. Use of linear algebra and statistical packages. The emphasis of the course is on theory via practical applications.
Prerequisite: 16-220:606 or (16-220:551 and 16-220:552), or permission of instructor.

16:220:608 ***Econometrics II (3)***
Time series analysis, focusing on estimation, inference and validation. Specifications examined include (vector autoregressive) models and a variety of nonlinear models including GARCH. Estimation techniques examined include maximum likelihood, generalized methods of moments (GMM) and various other techniques such as simulated GMM. Inference techniques examined include standard asymptotics, unit root asymptotics and bootstrapping. Additional topics include Monte Carlo methods, predictive accuracy testing, model selection, unit roots and cointegration; as well as topics in financial and macroeconometrics.
Prerequisite: 16-220:607 or (16-220:551, 16-220:552, and 16-220:571), or permission of instructor.

16:220:609 ***Applied Econometrics for Microeconomics (3)***
Econometric tools for microeconomic models are discussed relying on recent applied econometric papers. Tools include qualitative choice models, survival analysis, and advanced regression methods (e.g., panel data techniques and limited dependent variables).
Prerequisite: 16-220:607 or (16-220:551 and 16-220:552), or permission of instructor.

16:220:610 ***Applied Econometrics for Macroeconomics (3)***
Econometric tools for macroeconometric time series models. Topics include exogeneity tests, spectral analysis, non-stationarity, the Kalman filter, structural shifts, prediction, nonlinear models and nonparametrics. Recent macroeconomic time series papers are discussed.
Prerequisite: 16-220:607 or (16-220:551, 16-220:552, and 16-220:560), or permission of instructor.

Ph.D. Field Courses

General Prerequisite for Field Courses (unless otherwise specified): 16-220:600, 601, 603, 604, 606, 607 or permission of instructor.

16:220:611 ***History of Economic Thought (3)***
This graduate seminar surveys the evolution of economic ideas from the 1700s to the present. We will read classic texts (e.g., Smith, Ricardo, Keynes, Friedman) alongside modern interpretations. We will ask: What problems were economists trying to solve in different eras? Where do economists' core assumptions come from? How have methods—especially the role of mathematics and the balance between theory and empirical evidence—changed over time? And how have economic ideas both shaped and been shaped by politics, technology, crises, and culture? The course covers major schools of thought, including mercantilism, classical political economy, Marxism, and Keynesianism, as well as modern variants.
Prerequisite: See general field course prerequisite above.

16:220:612 ***European Economic History (3)***
The growth of Europe from the sixteenth century to the present. Topics include mercantilism; industrialization, the standard of living debate; international economic integration in the nineteenth century; the gold standard, the Great Depression, the economics of war and peace, and the EC.
Prerequisite: See general field course prerequisite above.

16:220:613 ***American Economic History (3)***
The development of the American economy from colonial times to the present. Topics that will receive particular attention include industrialization, agriculture, slavery, monetary and financial developments, the Great Depression, and postwar growth.
Prerequisite: See general field course prerequisite above.

16:220:620 ***Economics of the Labor Market (3)***
Labor supply (static and dynamic models and empirical analyses). Labor demand. Wage differentials and unemployment. Applications to policy problems: economics of welfare system, and low-income labor markets.
Prerequisite: See general field course prerequisite above.

16:220:621 ***Labor Economics (3)***
Emphasis on advanced topics and empirical methods in labor economics. Covers human capital theory, wage determination, labor mobility, discrimination, and the role of institutions in shaping labor market outcomes. Students engage with both theoretical models and contemporary research findings, applying econometric techniques to analyze labor market data.
Prerequisite: See general field course prerequisite above.

16:220:622 ***Industrial Organization I (3)***
Models of imperfect competition. Applications to price discrimination, vertical integration, product quality, advertising, and research and development. Strategic models of entry deterrence and contracting. Implications for antitrust policy. Empirical research on industry structure, conduct, and performance.
Prerequisite: See general field course prerequisite above.

16:220:623 ***Industrial Organization II (3)***
Natural monopoly and rate of return regulation. Optimal pricing including Ramsey, nonlinear, and peak-load pricing. Regulation models with uncertainty or asymmetric information. Optimal contracting and auditing. Price regulation. Regulation of entry and product quality. Regulation of price, entry, product quality, health, safety and the environment. Empirical research on performance in regulated industries.
Prerequisite: See general field course prerequisite above.

16:220:624 ***Public Finance I (3)***
Analysis of government expenditures and of policies designed to correct market failures, with emphasis on social insurance, benefit–cost analysis, and the design of welfare programs.
Prerequisite: See general field course prerequisite above.

16:220:625 ***Public Finance II (3)***
Tax policy analysis. Topics include optimal taxation, tax incidence analysis, the efficiency costs of taxation, and the measurement of the effects of taxation on economic behavior.
Prerequisite: See general field course prerequisite above.

16:220:626 ***Economic Development I (3)***
Problems of resource allocation for promoting economic growth and structural change in the context of poverty and inequality.
Prerequisite: See general field course prerequisite above.

16:220:627 ***Economic Development II (3)***
Selected topics in contemporary development economics.
Prerequisite: See general field course prerequisite above.

16:220:628 ***International Economics I (3)***
Major areas of trade theory are presented including comparative advantage theory, general equilibrium-factor endowments trade theory, and commercial policy. Recent developments such as imperfect competition and uncertainty models of international trade theory are included.
Prerequisite: See general field course prerequisite above.

16:220:629 ***International Economics II (3)***
Analysis of advanced topics in the area of international finance, international monetary economics and open economy macroeconomics. Topics may include: International business cycles; international financial markets; current account and fiscal policy; sovereign debt; exchange rate regimes; speculative attacks; international policy coordination; growth in the international economy.
Prerequisite: See general field course prerequisite above.

16:220:630 ***Financial Economics I (3)***
Students will analyze market structures of key financial markets including blockchains, the U.S. equity national market system, energy and carbon markets, and fixed income instruments in sovereign, corporate, housing and structured products. The course emphasizes a careful understanding of the most granular time series using both econometric and large language models.
Prerequisite: See general field course prerequisite above.

16:220:631 ***Financial Economics II (3)***
The main purpose is to introduce students to the recent development of continuous-time modeling techniques, specifically:

- Stochastic Control: Various applications in economics (macroeconomics and contract theory) and finance (asset pricing and theoretical corporate finance).
- High Frequency Econometrics.

Students will learn how to employ the mathematical tools of stochastic control to solve various economic problems and become familiar with the frontiers in high frequency econometrics.
Prerequisite: See general field course prerequisite above.

16:220:640 ***Advanced Topics in Microeconomics (3)***
Selected topics in advanced microeconomics.
Prerequisite: See general field course prerequisite above.

16:220:641 ***Uncertainty and Imperfect Information (3)***
Selected problems in economic analysis of uncertainty and imperfect information. Emphasis on applications in micro- and macroeconomics.
Prerequisite: See general field course prerequisite above.

16:220:642 ***Topics in Game Theory (3)***
Introduction to non-cooperative and cooperative game theory that are relevant to economic problems.
Prerequisite: See general field course prerequisite above.

16:220:643 ***Experimental Economics (3)***
Introduction to analysis by experimental methods of selected problems in economic theory, focusing on theory of individual choice under uncertainty and game theory, as well as bargaining theory, industrial organization, social choice theory, and financial markets.
Prerequisite: See general field course prerequisite above.

16:220:644 ***Networks and Complexity in Economics (3)***
Network analysis to extend and generalize the nature of economic interactions by explicitly considering the impact of connections between agents; Complexity as a distinct approach to modelling economic and social interactions by simplifying the scope of what agents are presumed to be able to fully comprehend and process in making decisions; Development of the notion of *opportunism* rather than *optimality* as a relevant *modus operandum* for economic agents in highly complex environments.
Prerequisite: See general field course prerequisite above.

16:220:645 ***Theory of Social Choice (3)***
An introduction to Social Choice Theory. Aggregation of preferences and strategic behavior. Voting. Matching. Coalitions. Equality and justice.
Prerequisite: See general field course prerequisite above.

16:220:650 ***Advanced Topics in Macroeconomics (3)***
This course covers research at the frontier of macroeconomics. The specific content varies by instructor. Topics may include theoretical and empirical approaches to the study of aggregate economic fluctuations, labor market dynamics, monetary and fiscal policy, international and emerging market macroeconomics, and related issues. The course is intended for graduate students and emphasizes modern analytical and quantitative methods useful for state of the art macroeconomic research.
Prerequisite: See general field course prerequisite above.

16:220:651 ***Monetary Theory (3)***
Traditional treatment of monetary theory and policy. Topics include: the origins of money, money demand, money supply, Keynesian, Classical and New Classical models, money and inflation, money and output, monetary policy, rules versus discretion and monetary standards.
Prerequisite: See general field course prerequisite above.

16:220:652 ***International Macroeconomics and Finance (3)***
Various topics in international macroeconomics and finance with in-depth analysis of canonical models and seminal papers. Topics include international business cycles, global capital flows, sovereign debt and default, international financial crises and sudden stops, and exchange rate regimes.
Prerequisite: See general field course prerequisite above.

16:220:711 ***Seminar in Economic Theory (3)***
Topics chosen by instructor. Research in microeconomic theory. Papers by students, faculty, and visiting scholars on topics selected by the seminar participants.
Prerequisite: See general field course prerequisite above.

16:220:712 Seminar in Microeconomics (3)
Advanced research in microeconomics. Papers by students, faculty, and visiting scholars on topics selected by the seminar participants.
Prerequisite: See general field course prerequisite above.

16:220:713 Seminar in Macroeconomics (3)
Consists of two parts: (i) Several lectures reviewing topics and controversies at the frontier of macroeconomics, presented by instructor and discussed by class; (ii) papers on current topics, presented by students and discussed by instructor and other students. Emphasis on development and analytical skills and use of empirical and theoretical tools. Topics to be considered will be mutually agreed upon.
See general field course prerequisite above.

16:220:714 Seminar in Monetary Theory (3)
Advanced topics in monetary theory covering both micro and macro aspects of the field.
Prerequisite: See general field course prerequisite above.

16-220:715 ***Seminar in Econometrics (3)***
Statistical inference in econometrics from Bayesian and non Bayesian points of view. Special topics of current interest are covered including inference on structural shifts, model selection, Kalman-filter models and duration dependent models.
Prerequisite: See general field course prerequisite above.

16:220:716 ***Seminar in Applied Econometrics (3)***
Application of econometric methods for estimation of parameters in an economic relationship as may be specified in a micro/macro generally interdependent simultaneous system model involving use of a body of data cross section and/or time series.
Prerequisite: See general field course prerequisite above.

16:220:717 ***Seminar in Public Economics (3)***
Advanced topics with emphasis on the current controversies in the field.
Prerequisite: See general field course prerequisite above.

16:220:718 ***Seminar in Public Finance (3)***
Topics chosen by the instructor, focusing on frontier research in public economics. The seminar features papers by students, faculty, and visiting scholars on subjects selected by the participants.
Prerequisite: See general field course prerequisite above.

16:220:719 ***Seminar in Labor and Human Resources (3)***
Special topics in labor economics, varying from year to year. Past topics have been: economics of transfer programs, economics of health, economics of fertility. Students are expected to complete a project for the course and to present a seminar on its results at the end of the semester.
Prerequisite: See general field course prerequisite above.

16:220:720 ***Seminar in International Economics (3)***
Course varies in content depending upon faculty and student interests. Generally, special attention is paid to current topics which will stimulate student dissertation research.
Prerequisite: See general field course prerequisite above.

16:220:721 ***Seminar in Economic Development (3)***
Advanced topics in development economics emphasizing skills of modelling and estimation.
Prerequisite: See general field course prerequisite above.

16:220:722 ***Seminar in Economic History (3)***
Selected topics in recent research in economic history.
Prerequisite: See general field course prerequisite above.

16:220:728 ***Computational Methods in Econometrics (3)***
This course bridges theoretical econometrics with practical computational implementation, focusing on the essential algorithms and numerical methods that transform statistical theory into computational algorithms. The first half begins with foundational estimation techniques, including Maximum Likelihood Estimation (MLE), Generalized Method of Moments (GMM), and the Delta Method, emphasizing not just their theoretical properties but their efficient computational implementation and practical coding considerations. The curriculum then advances to contemporary methods including non-parametric estimation average treatment effect estimation, and network models, with each module designed to equip students with both the theoretical understanding and technical skills necessary for empirical research. Building on these foundations, the second half of the course examines machine learning and dimension-reduction methods that address high-dimensional problems, focusing on their use in causal inference and forecasting in applied econometric research.
Prerequisite: See general field course prerequisite above.

16:220:730 ***Individual Studies in Economics (3)***
Independent study. Students enroll with a faculty member.

16:220:701 ***Research in Economics (3)***
Doctoral dissertation research. Students enroll with their primary dissertation advisor.

16:220:702 ***Research in Economics (3)***
Credits: Variable (Students must complete 24 research credits for the Ph.D.)
Continuation of doctoral dissertation research. Students enroll with their primary

Education 300 (SGS-EDUCATION)

EDUCATION 300

See the Ph.D. Program page in the Graduate School of Education section of this catalog.

Electrical and Computer Engineering 332 (SGS-ECE)

ELECTRICAL AND COMPUTER ENGINEERING 332

Degree Programs O◈ered: M.S./Ph.D.

Visit the Electrical and Computer Engineering website.

Program/Track Director: Waheed Bajwa; ecegraddirector@soe.rutgers.edu; 848-445-2587; Fax: 732-445-2820

Administrative Contact: Katie Yu; ecegradprogram@soe.rutgers.edu; 848-445-2577

Chair/ Equivalent: Yingying Chen; yingche@scarletmail.rutgers.edu; 848-445-1494

The Electrical and Computer Engineering program provides comprehensive student training in Communications, Networking, Signal and Information Processing, Machine Learning, Systems and Controls, Computational Sensing, Software Engineering, Cybersecurity, and Electronic Devices, Circuits and Systems. Students in the program develop strong analytical and lifelong learning skills, while obtaining end-to-end hardware and software system design and development experiences. The theory and system foundations in the program support students in their quest of building careers in academia and various industry sectors including telecommunications, information technology, media, pharmaceutical, and financial companies. Students in the program also benefit from the long-running internship-for-credit arrangement within the program that allows students to receive academic credit for professional internships that have an academic component suitable for graduate-level coursework.

Faculty

Ioannis Androulakis, Ph.D., Purdue

Waheed Uz Zaman Bajwa, Ph.D. Wisconsin (Madison)

Haim Baruh, Ph.D., Virginia Polytechnic Institute

Aggelos Bletsas, M.S., Ph.D., Massachusetts Institute of Technology

Daniel Alberto Burbano Lombana, Ph.D., Naples Federico II

Michael Caggiano, Ph.D., California (Los Angeles)

Tapan Chakraborty

Yingying (Jennifer) Chen, Ph.D., Rutgers

Sang-Wook Cheong, Ph.D., California (Los Angeles)

Kristin Dana, Ph.D., Columbia

F.Javier Diez-Garias, Ph.D., Michigan

Salim El Rouayheb, Ph.D., Rutgers

David Foran, Ph.D., Rutgers

Zoran Gajic, Ph.D., Michigan

Marco Gruteser, Ph.D., Colorado

Mert Gurbuzbalaban, Ph.D., New York University

Ilker Hacihaliloglu, Ph.D., British Columbia

Sasan Haghani, Ph.D., Alberta

Stephen Jose Hanson, Ph.D., Arizona

Umer Hassan, Ph.D., Illinois (Urbana)

Richard Howard, Ph.D., Technology Lab

Shirin Jalali, Ph.D., Stanford

Mehdi Javanmard, Ph.D., Stanford

Shantenu Jha, Ph.D. Syracuse

Bokyung Kim, B.S., M.S., Ewha; Ph.D., Duke

Minsung Kim

Dov Kruger

John Li, Ph.D., Pennsylvania

Janne Lindqvist, Ph.D., Helsinki

Hang Liu, B.S., Huazhong; Ph.D., George Washington

Yao Liu, Ph.D., George Mason

Yicheng Lu, Ph.D., Colorado

Richard Mammone, Ph.D., CUNY

Narayan Mandayam, Ph.D., Rice

Ivan Marsic, Ph.D., Rutgers

Richard Martin, Ph.D., California (Berkeley)

John McGarvey, Ph.D., Rutgers

Peter Meer, D.Sc., Technion (Israel)

Alexandre Morozov, Ph.D., Washington

Laleh Najafizadeh, Ph.D., Georgia Insitute of Technology

Simiao Niu, B.E., Tsinghua; M.S., Ph.D., Georgia Institute of Technology

Seongshik Oh, Ph.D., Illinois (Urbana)

Sophocles Orfanidis, Ph.D., Yale

Jorge Ortiz, Ph.D., California

Athina Petropulu, Ph.D., Northeastern

Dario Pompili, Ph. D., Rome (La Sapienza)

Shriram Ramanathan, Ph.D., Stanford

Dipankar Raychaudhuri, Ph. D., New York (Stony Brook)

Amin Reihani

Anand Sarwate, Ph.D., Rutgers

Deborah Silver, Ph.D., Princeton

Vivek Singh, Ph.D., California (Irvine)

Emina Soljanin, Ph.D., Texas A&M

Pedrag Spasojevic, Ph.D., Texas A&M

Maria Striki, Ph.D., Maryland

Wade Trappe, Ph.D., Maryland

Marilyn Tremaine

Matteo Turilli, M.A., Padua; Ph.D., Oxford

Jaideep Vaidya, Ph.D., Purdue

Ruo-Qian Wang, Ph.D., Massachusetts

Sheng Wei, Ph.D., California

Chung-Tse (Michael) Wu, Ph.D., Rutgers

Guosong Yang, Ph.D., Illinois

Roy Yates, Ph.D., Massachusetts Institute of Technology

Jingang Yi, Ph.D., California (Berkeley)

Bo Yuan, Ph.D., Minnesota

Yuqian Zhang

Zhao Zhang

Ngwe Zin, Ph.D., Australian

Saman Zonouz, Ph.D., Illinois (Urbana)

Qingze Zou, Ph.D., Washington (Seattle)

Ph.D. Degree Requirements

Ph.D. Degree Requirements

To obtain a Ph.D. (doctoral) degree in the ECE department, students must navigate a set of distinct criteria. Central to the Rutgers ECE doctoral journey is an emphasis on rigorous research, culminating in a dissertation. This body of work undergoes rigorous evaluation and approval by specially selected faculty committees.

Research Advisor: Every Ph.D. student must be under the guidance of a research advisor, who is a member of the graduate faculty of the ECE Graduate Program. This advisor not only provides direction in the student's research journey but also chairs both the Ph.D. Proposal and Dissertation Committees.

Specialization Area: In coordination with their research advisor, every Ph.D. student is required to select a specialization area for their studies. While specific specializations are provided in Section 1. Introduction, students are also encouraged to pursue interdisciplinary themes that intersect multiple areas. Those with such cross-cutting interests should seek guidance from their research advisor. Notably, the chosen specialization dictates the coursework prerequisites for the Ph.D. Qualifying Examination.

Credit and Course Requirements: To attain the Ph.D. degree, students are required to complete a minimum of 72 credits while maintaining a grade point average (GPA) of at least 3.5. Of these credits, a minimum of 36 should come from graduate coursework and 24 should be attributed to dissertation research. The remaining 12 credits can be sourced from either further graduate coursework or dissertation research. Within the graduate coursework, students are required to select 5 courses from designated lists specific to each specialization. These courses serve as prerequisites for the Ph.D. Qualifying Exam.

PhD Qualifying Examination: This exam assesses a student's innovative capabilities, depth of knowledge, and readiness for independent research. Upon passing this exam and submitting the Ph.D. Candidacy Form to the Rutgers School of Graduate Studies, a student gains the formal designation of a Ph.D. Candidate, also known as a Post-Qualifying Ph.D. Student.

PhD Proposal Defense: After advancing to Ph.D. candidacy, students are expected to draft a Ph.D. Proposal typically one year before their anticipated graduation. This document details both their completed research and the planned trajectory for their dissertation. The proposal is then defended before the Ph.D. Proposal Committee, which is chaired by the student's research advisor. See Section 4.3. Ph.D. Proposal Defense for details.

Ph.D. Dissertation Submission and Defense: The culmination of the Ph.D. program is the dissertation, commonly referred to as the Ph.D. thesis. This document stands as the definitive archival record of the student's extensive research efforts. Before its final approval, each dissertation is subjected to rigorous scrutiny by the Ph.D. Dissertation Committee, which is chaired by the student's research advisor. Moreover, every Ph.D. student is mandated to publicly present their dissertation's findings in a session commonly known as the Ph.D. Thesis Defense. During this defense, the dissertation committee evaluates the thoroughness and validity of the presented research.

M.S. Degree Requirements

M.S. Degree Requirements

Credits

Under the thesis option, candidates are required to complete 24 credits of coursework, maintaining a minimum grade point average (GPA) of 3.0. Additionally, they must undertake 6 credits of research culminating in a master's thesis.

For the non-thesis program, candidates need to complete 30 credits of coursework while achieving a minimum GPA of 3.0. They are also required to author a technical paper.

Course Requirements

The course requirements for M.S. students in the ECE program encompass a chosen specialization area, mandatory colloquium attendance, a structured selection of coursework including core and elective courses, and meeting the ECE residency requirements.

Specialization Area: All M.S. students must declare their intent to specialize in one of the areas including: Communications, Signal and Information Processing, Machine Learning, Systems and Controls, Computer Engineering, Software Engineering, and Electronic Devices, Circuits and Systems.

Cross-cutting specializations are also highly encouraged; students with interests spanning multiple specialization areas should consult with their thesis advisor (if applicable) and the Graduate Director to create a coherent study plan. Formal approval from the Graduate Program Office is required before registering for the proposed cross-disciplinary specialization coursework.

Colloquium: M.S. students must complete two (2) semesters of 16:332:699—Colloquium in Electrical and Computer Engineering. To secure credit for 16:332:699 (Colloquium in ECE), students must be formally enrolled and attend a minimum of eight seminars, deriving from both the ECE Colloquium and the ECE Guest Speaker Series.

Coursework: The coursework for the M.S. program in each specialization area has been divided into three categories: (1) core courses, (2) restricted elective courses, and (3) general elective courses.

- **Core Courses:** Students are generally required to take at least 3 courses from the list of core courses for their chosen specialization.
- **Restricted Elective Courses:** A minimum of 3 courses from the list of restricted elective courses must be chosen for the respective specialization.
- **General Elective Courses:** Students may choose general elective courses from any Rutgers graduate course, including those offered by other departments.

ECE Residency Requirement: While the curriculum for Electrical and Computer Engineering allows for the inclusion of courses outside the department (such as mathematics), it also mandates that students must satisfy a "residency requirement" to obtain an ECE degree. This requirement ensures that students earn a specific number of credits from courses bearing ECE course numbers.

- **Thesis Option:** Students must accumulate at least 15 residency credits. This can include ECE graduate courses listed in the core and elective courses for those focusing on one of the specialization areas, as well as relevant ECE graduate courses for those focusing on cross-disciplinary specializations. Please note that the 6 credits of thesis work from 16:332:701 and 16:332:702 do not count towards core or elective listings.

- **Non-Thesis Option:** A minimum of 21 residency credits is required, following the same guidelines as the thesis option.

By adhering to these residency requirements, students can ensure that their coursework is grounded in the foundational areas of Electrical and Computer Engineering, even as they explore related disciplines.

Electrical and Computer Engineering 332 (SGS-ECE)

Course Descriptions

Course Descriptions

16:332:501 ***Systems Analysis (3)***
This course introduces the fundamentals of linear system concepts via solution of linear differential and difference equations. The curriculum covers the state space approach for multi-input multi-output (MIMO) linear systems, and introductions to the concepts of linear system stability, controllability, observability, and minimal realization. It exposes the student to analytic tools used in signal processing, communications, and controls (Fourier and Laplace transforms, frequency domain description of linear systems, etc.,). It aids students in extending the concepts learned in circuit analysis to more abstract linear mapping relationships, and fosters an appreciation for the broad applicability of system theory across various fields of engineering and science.

16:332:502 ***Technology Entrepreneurship (3)***
Structure and framework of entrepreneurial endeavors. Phases of a startup, business organization, intellectual property, financing, financial modeling, and business plan writing.

16:332:503 ***Programming Finance (3)***
Fundamentals of object-oriented programming and C++ with an emphasis in numerical computing and computational finance. Design Oriented. Topics include: C++ basics, objected oriented concepts, data structures, algorithm analysis and applications.

16:332:504 ***Sensor-Based Systems and Applications (3)***
The course will develop skills in designing, programming, and testing self-configurable communication protocols and distributed algorithms for wireless sensor networks enabling environmental, health, and seismic monitoring, surveillance, reconnaissance, and targeting.

16:332:505 ***Control System Theory (3)***
Review of basic feedback concepts and basic controllers. State space and transfer function approaches for linear control systems. Concepts of stability, controllability, and observability for time-invariant and time-varying linear control systems. Pole placement technique. Full and reduced-order observer designs. Introduction to linear discrete-time systems.

16:332:506 ***Applied Controls (3)***
Review of state space techniques; transfer function matrices; concepts of controllability, observability and identifiability. Identification algorithms for multivariable systems; minimal realization of a system and its construction from experimental data. State space theory of digital systems. Design of a three mode controller via spectral factorization.

16:332:507 ***Security Engineering (3)***
Essential principles, techniques, tools, and methods for systems security engineering. Students work in small collaborative design teams to propose, build, and document a project focused on securing systems. Students document their work through a series of written and oral proposals, progress reports, and final reports. Basics of security engineering, usability and psychology, human factors in securing systems, mobile systems security, intersection of security and privacy, security protocols, access control, password security, biometrics, and topical approaches such as gesture--based authentication.

16:332:508 ***Digital Control Systems (3)***
Review of linear discrete-time systems and the Z-transform. Sampling of continuous-time liner systems and sampled-data linear systems. Quantization effects and implementation issues. Computer controlled continuous-time linear systems. Analysis and design of digital controllers via the transfer function and state space techniques. Linear-quadratic optimal control and Kalman filtering for deterministic and stochastic discrete-time systems.

16:332:509 ***Convex Optimization (3)***
The course develops the necessary theory, algorithms and tools to formulate and solve convex optimization problems that seek to minimize cost function subject to constraints. The emphasis of the course is on applications in engineering applications such as control systems, computer vision, machine learning, pattern recognition, financial engineering, communication and networks.

16:332:510 ***Optimum Control Systems (3)***
Formulation of both deterministic and stochastic optimal control problems. Various performance indices; calculus of variations; derivation of Euler-Lagrange and Hamilton-Jacobi equations and their connection to two-point boundary value problems, linear regulator and the Riccati equations. Pontryagin's maximum principle, its application to minimum time, minimum fuel and "bang-bang" control. Numerical techniques for Hamiltonian minimization. Bellman dynamic programming; maximum principle.

16:332:512 ***Nonlinear & Adaptive Control & Learning for Engineers (3)***
This course explores tools for modeling, analyzing, and controlling nonlinear systems, including fundamental solution properties, Lyapunov stability theory, passivity, input-output stability, feedback linearization, backstepping, control Lyapunov functions, and other foundational methods in nonlinear and adaptive control.

16:332:514 ***Data-Driven Systems and Controls (3)***
This course explores continuous and discrete-time systems, feedback control, and data-informed controller design. The curriculum covers reverse engineering problems, stabilizing control strategies, and optimal control design from data. Advanced topics include model-predictive control, extremum-seeking, and machine-learning control.

16:332:515 ***Reinforcement Learning for Engineers (3)***

16:332:516 ***Cloud Computing and Big Data (3)***
This course will introduce students to fundamentals of Cloud Computing Concepts. It will emphasize both in the distributed communication and coordination aspects of clouds and the new parallel and distributed technologies, concepts, techniques, and algorithms that make-up the Cloud Infrastructure as we have built it up or … envision it today. We will investigate more or less in depth how each individual component works and contributes to the Cloud and also how it works in symphony with all the remaining components of the Cloud Framework. We will ask

ourselves at the beginning of the class… What is a Cloud? We will attempt to describe. We will ask ourselves again at the end of the course: What is a Cloud after all? And the goal is that everyone now will color this answer with his/her own personal experience on working, touching, approaching, altering some parts of the Cloud!

16:332:518 ***Mobile Embedded Systems and On-Device AI (3)***
This course introduces computing principles in mobile embedded systems and artificial intelligence (AI) technologies on mobile devices. It focuses on emerging computing paradigms in the areas of context-aware pervasive systems, spatiotemporal access control with distributed software agents, mobile sensing, and trust and privacy in mobile environments. It also introduces techniques for implementing AI and developing deep learning models on resource-constrained mobile devices.

16:332:519 ***Advanced Topics in Systems Engineering (3)***

16:332:521 ***Digital Signals Analytics (3)***
Sampling and quantization of analog signals; Z-transforms; digital filter structures and hardware realizations; digital filter design methods; DFT and FFT and methods and their application to fast convolution and spectrum estimation; introduction to discrete time random signals.
Prerequisites: 16:332:501.

16:332:525 ***Optimum Signal Processing: Signal Processing and Machine Learning for Engineers (3)***
The course will cover important topics in signal processing and machine learning, such as:

- review of linear and matrix algebra, probability and random processes;
- spectrum estimation and applications: classical spectrum estimation, parametric modeling, autoregressive models, minimum variance spectral estimation, maximum likelihood estimation, subspace methods for frequency estimation, MUSIC, ESPRIT, array processing, beamforming;
- mean-square error linear estimation normal equations, the orthogonality condition, linear filtering, Kalman filtering;
- stochastic gradient descent steepest descent, the Least-Mean-Squares Adaptive Algorithm, LMS convergence and properties, distributed LMS;
- Least-Squares Estimation Least-squares linear regression, recursive least-squares (RLS), RLS performance analysis;
- Classification Bayesian classification, nearest neighbor rule, logistic regression, Fisher's linear discriminant;
- Sparsity Aware Learning LASSO, learning sparse analysis models;
- Particle Filtering Sequential importance sampling, Kalman and particle filtering, particle filtering;
- Neural Networks and Deep Learning Perceptron, feed-forward multilayer neural networks, backpropagation algorithm, pruning the network, universal approximation property of feed-forward neural networks

16:332:526 ***Robotics System Engineering (3)***
Introduction to robotics; robot kinematics and dynamics. Trajectory planning and control. Systems with force, touch and vision sensors. Telemanipulation. Programming languages for industrial robots. Robotic simulation examples.

16:332:527 ***Digital Speech Processing (3)***
Acoustics of speech generation; perceptual criteria for digital representation of audio signals; signal processing methods for speech analysis; waveform coders; vocoders; linear prediction; differential coders (DPCM, delta modulation); speech synthesis; automatic speech recognition; voice-interactive information systems.
Prerequisite: 16:332:521.

16:332:529 ***Image Coding and Processing (3)***
Visual information, image restoration, coding for compression and error control, motion compensation, and advanced television.
Prerequisites: 16:332:521, 16:642:550, (16:332:535 recommended).

16:332:530 ***Introduction to Deep Learning (3)***
This course offers an introduction to deep learning, the critical technology behind modern artificial intelligence. Students will learn the fundamentals of deep learning, including the construction, training, testing, and application of deep neural networks. Additionally, the course will cover approaches for deploying deep neural networks efficiently and address the vulnerabilities and robustness of these networks.

16:332:531 ***Probabilistic Methods for Large Scale Signal Processing and Learning (3)***
This course provides a "mathematical toolkit" for analyzing large-scale signal processing and machine learning algorithms. Topics in this course include: concentration of measure, high-dimensional geometry, packings and coverings, random matrices, random processes, and application.

16:332:532 ***Multimodal Machine Learning for Sensing Systems (3)***
This graduate-level course teaches multimodal machine learning and sensor data analysis through signal processing, control, and machine learning techniques. Students will gain hands-on experience in filters, time series analysis, and deep learning models for sensor fusion and inference.

16:332:533 ***Machine Learning for Inverse Problems (3)***
In computational imaging, optical encoding methods, as done in digital holography or magnetic resonance imaging (MRI), allow us to capture images from the depths of the human body to the far reaches of space. In such systems, the acquired signals are not the desired images, but functions of them, as determined by the optical encoding. Solving the corresponding inverse problems allows us to recover the desired images. Throughout this course, we'll examine a variety of inverse problems, looking at both classic and modern computational imaging techniques. We'll dissect the imaging systems tied to these problems and delve into algorithm development for solving them. With machine learning leading the charge in today's imaging solutions, we will also explore how these techniques are integrated into solving inverse problems.
Prerequisites/Corequisites: Senior and graduate student only. Linear Algebra experience necessary.

16:332:535 ***Multidimensional Signal Processing Algorithms (3)***
Wavelets and subband coding with applications to audio, image, and video processing. Compression and communications issues including low-bit-rate video systems. Design of digital filters for systems with 2 or more channels. Matlab and matrix algorithms for analysis, design, and implementation.
Prerequisites: 16:332:521 or Permission of instructor. Corequisite: 16:642:550.

16:332:539 ***Advanced Topics in Information Processing***

16:332:541 ***Stochastic Signals and Systems (3)***
Axioms of probability; conditional probability and independence; random variables and functions thereof; mathematical expectation; characteristic functions; conditional expectation; Gaussian random vectors; mean square estimation; convergence of a sequence of random variables; laws of large numbers and Central Limit Theorem; stochastic processes, stationarity, autocorrelation and power spectral density; linear systems with stochastic inputs; linear estimation; independent increment, Markov, Wiener, and Poisson processes.

16:332:541 ***Information Theory and Coding (3)***
Noiseless channels and channel capacity; entropy, mutual information, Kullback-Leibler distance and other measures of information; typical sequences, asymptotic equipartition theorem; prefix codes, block codes, data compression, optimal codes, Huffman, Shannon-Fano-Elias, Arithmetic coding; memoryless channel capacity, coding theorem and converse; Hamming, BCH, cyclic codes; Gaussian channels and capacity; coding for channels with input constraint; introduction to source coding with a fidelity criterion.
Prerequisite:16:332:541.

16:332:543 ***Communication Networks I (3)***
Introduction to telephony and integrated networks. Multiplexing schematics. Circuit and packet switching networks. Telephone switches and fast packet switches. Teletraffic characterization.. Delay and blocking analysis. Queueing network analysis.
Prerequisite: 14:332:226 or equivalent or 16:332:541 or equivalent.

16:332:544 ***Communication Networks II (3)***
Network and protocol architectures. Layered connection management, including network design, path dimensioning, dynamic routing, flow control, and random access algorithms. Protocols for error control, signaling, addressing, fault management, and security control. This course is intended to provide an in-depth and practical understanding of modern computer networks that constitute the Internet. The scope includes network architecture, key technologies, layer 2 and layer 3 protocols, and examples of specific systems. Emphasis will be on network protocols and related software implementation. The course includes a hands-on “clean-slate” network prototyping project involving specification, standardization and software implementation.
Prerequisite: 16:332:541.

16:332:545 ***Digital Communication Systems (3)***
Signal space and Orthonormal expansions, effect of additive noise in electrical communications vector channels, waveform channels, matched filters, bandwidth and dimensionality. Digital modulation techniques. Optimum receiver structures, probability of error, bit and block signaling, Intersymbol interference and its effects, equalization and optimization of baseband binary and M-ary signaling schemes; introduction to coding techniques.
Prerequisite:16:332:541.

16:332:546 ***Wireless Communications Technologies (3)***
Propagation models and modulation techniques for wireless systems, receivers for optimum detection on wireless channels, effects of multiple access and intersymbol interference, channel estimation, TDMA and CDMA cellular systems, radio resource management, mobility models.

16:332:548 ***Error Control Coding (3)***
Application of information-theoretic principles to communication system analysis and design. Source and channel coding considerations, rudiments of rate-distortion theory. Probabilistic error control coding impact on system performance. Introduction to various channel models of practical interest, spread spectrum communication fundamentals. Current practices in modern digital communication system design and operation.

16:332:549 ***Detection and Estimation Theory (3)***
Statistical decision theory, hypothesis testing, detection of known signals and signals with unknown parameters in noise, receiver performance and error probability, applications to radar and communications. Statistical estimation theory, performance measures and bounds, efficient estimators. Estimation of unknown signal parameters, optimum demodulation, applications, linear estimation, Wiener filtering, Kalman filtering.
Prerequisite:16:332:541.

16:332:553 ***Wireless Access to Information Networks (3)***
Cellular mobile radio; cordless telephones; systems architecture; network control; switching; channel assignment techniques; short range microwave radio propagation; wireless information transmission including multiple access techniques, modulation, source coding, and channel coding.
Prerequisites: 14:332:349 and 14:332:450 or equivalent.

16:332:556 ***Microwave Communication Systems (3)***
Overview of modern microwave engineering including transmission lines, network analysis, integrated circuits, diodes, amplifier and oscillator design. Microwave subsystems including front-end and transmitter components, antennas, radar terrestrial communications, and satellites.
Prerequisite:16:332:580 or equivalent.

16:332:557 ***Quantum Computing and Communication Algorithms (3)***
This course teaches students the very basics of quantum information science. Its purpose is to supply the material required to enter the field. This course first addresses the three essential questions of quantum computing: How is quantum information represented? How is quantum information processed? How is classical information extracted from quantum states? It then introduces the most fundamental quantum algorithms and protocols that illustrate the advantages of quantum information processing over the classical.
Prerequisites/Corequisites: Undergraduate Probability and Linear Algebra.

16:332:558 ***Quantum Computing and Information Systems (3)***
This course focuses on scenarios with multi-party communication and multi-part computing systems.
Prerequisites/Corequisites: Undergraduate Probability and Linear Algebra.

16:332:559 ***Advanced Topics in Communication Engineering (3)***

16:332:560 ***Computer Graphics (3)***
Computer display systems, algorithms and languages for interactive graphics. Vector, curve, and surface generation algorithms. Hidden-line and hidden-surface elimination. Free-form curve and surface modeling. High-realism image rendering.

16:332:561 ***Machine Vision (3)***
Image processing and pattern recognition. Principles of image understanding. Image formation, boundary detection, region growing, texture and characterization of shape. Shape from monocular clues, stereo and motion.

Representation and recognition of 3-D structures.

16:332:562 ***Visualization and Advanced Computer Graphics (3)***
Advanced visualization techniques, including volume representation, volume rendering, ray tracing, composition, surface representation, advanced data structures. User interface design, parallel and object-oriented graphic techniques, advanced modeling techniques.

16:332:563 ***Computer Architecture I (3)***
Fundamentals of computer architecture using quantitative and qualitative principles. Instruction set design with examples and measurements of use, basic processor implementation: hardwired logic and microcode, pipelining; hazards and dynamic scheduling, vector processors, memory hierarchy; caching, main memory and virtual memory, input/output, and introduction to parallel processors; SIMD and MIMD organizations.

16:332:564 ***Computer Architecture II (3)***
Advanced hardware and software issues in main-stream computer architecture design and evaluation. Topics include register architecture and design, instruction sequencing and fetching, cross-branch fetching, advanced software pipelining, acyclic scheduling, execution efficiency, predication analysis, speculative execution, memory access ordering, prefetch and preloading, cache efficiency, low power architecture, and issues in multiprocessors.
Prerequisite:16:332:563.

16:332:565 ***Hardware and System Security (3)***
This course focuses on cybersecurity research from the perspective of hardware systems. The curriculum covers the topics of hardware for security, security of hardware, and system security with the goal of building secure and trustworthy hardware systems.

16:332:566 ***Introduction to Parallel and Distributed Computing (3)***
Introduction to the fundamental of parallel and distributed computing including systems, architectures, algorithms, programming models, languages and software tools. Topics covered include parallelization and distribution models; parallel architectures; cluster and networked meta-computing systems; parallel/distributed programming; parallel/distributed algorithms, data-structures and programming methodologies, applications; and performance analysis. A "hands-on" course with programming assignments and a final project.

16:332:567 ***Software Engineering I (3)***
Overview of software development process. Formal techniques for requirement analysis, system specification and system testing. Distributed systems. System security and system reliability. Software models and metrics. Case studies.

16:332:568 ***Software Engineering Web Applications (3)***
The course focus is on Web software design with particular emphasis on mobile wireless terminals. The first part of the course introduces tools; Software component (Java Beans), Application frameworks, Design patterns, XML, Communication protocols, Server technologies, and Intelligent agents. The second part of the course presents case studies of several Web applications. In addition, student teams will through course projects develop components for an XML-Based Web, such as browsers, applets, servers, and intelligent agents.

16:332:570 ***Robust Computer Vision (3)***
A toolbox of advanced methods for computer vision, using robust estimation, clustering, probabilistic techniques, invariance. Applications include feature extraction, image segmentation, object recognition, and 3-D recovery.
Prerequisite: 16:332:561.

16:332:571 ***Virtual Reality Technology (3)***
Introduction to Virtual Reality. Input/Output tools. Computing architectures. Modeling. Virtual Reality programming. Human factors. Applications and future systems.

16:332:572 ***Parallel and Distributed Computing (3)***
Study of the theory and practice of applied parallel/distributed computing. The course focuses on advanced topics in parallel computing including current and emerging architectures, programming models application development frameworks, runtime management, load-balancing and scheduling, as well as emerging areas such as autonomic computing, Grid computing, pervasive computing and sensor-based systems. A research-oriented course consisting of reading, reviewing and discussing papers, conducting literature surveys, and a final project.

16:332:573 ***Data Structures and Algorithm (3)***
The objective is to take graduate students in all graduate School of Engineering fields with a good undergraduate data structures and programming background and make them expert in programming the common algorithms and data structures, using the C and C++ programming languages. The students will perform laboratory exercises in programming the commonplace algorithms I C and C++. The students will also be exposed to computation models and computational complexity.

16:332:574 ***Computer-Aided Digital VLSI Design (3)***
This course introduces the fabrication and layout techniques necessary to design Very Large Scale Integrated circuit (VLSI) systems. The curriculum covers CMOS digital logic, fabrication process technology, MOSFET theory, layout design rules including all the factors required for an effective circuit design, and case study of IC chips and microprocessors.

16:332:575 ***VLSI Array Processors (3)***
VLSI technology and algorithms; systolic and wavefront-array architecture; bit-serial pipelined architecture; DSP architecture; transputer; interconnection networks; wafer-cscale integration; neural networks.

16:332:576 ***Testing of Ultra Large Scale (ULSI) Circuits (3)***
Testing of Ultra Large Scale Integrated Circuits (of up to 50 million transistors) determines whether a manufactured circuit is defective. Algorithms for test-pattern generation for combinational, sequential, memory, and analog circuits. Design of circuits for easy testability. Design of built-in self-testing circuits.
Prerequisite: 16:332:563.

16:332:577 ***Analog and Low-Power Digital VLSI Design (3)***
Transistor design and chip layout of commonly-used analog circuits such as OPAMPS, A/D and D/A converters, sample-and-hold circuits, filters, modulators, phase-locked loops, and voltage-controlled oscillators. Low-power design techniques for VLSI digital circuits, and system-on-a-chip layout integration issues between analog and digital cores.

16:332:578 ***Deep Submicron VLSI Design (3)***
This course is a continuation of VLSI design including combinational, sequential circuits, and data path subsystems for VLSI design. The curriculum focuses on aiming to a single-nanoscale VLSI Chip and the design methodologies on each level including logic design, circuit design, and physical design (floorplanning), emphasizing low-power/ low voltage, cost-effective strategy. To overcome Deep Sub-Micron scaling issues, nanoscale-VLSI technologies are addressed and reviewed, underlining the novelty and feasibility with concurrent VLSI/ULSI technologies.

16:332:579 ***Advanced Topics in Computer Engineering (3)***

16:332:580 ***Electric Waves and Radiation (3)***
Static boundary value problems, dielectrics, wave equations, propagation in lossless and lossy media, boundary problems, waveguides and resonators, radiation fields, antenna patterns and parameters, arrays, transmit-receive systems, antenna types.
Prerequisite: A course in elementary electromagnetics.

16:332:581 ***Introduction to Solid State Electronics (3)***
Introduction to quantum mechanics; WKB method; perturbation theory; hydrogen atom; identical particles; chemical bonding; crystal structures; statistical mechanics; free-electron model; quantum theory of electrons in periodic lattices.

16:332:583 ***Semiconductor Devices I (3)***
Charge transport, diffusion and drift current, injection, lifetime, recombination and generation processes, p-n junction devices, transient behavior, FET's, I-V, and frequency characteristics, MOS devices C-V, C-f and I-V characteristics, operation of bipolar transistors.

16:332:584 ***Semiconductor Devices II (3)***
Review of microwave devices, O and M-type devices, microwave diodes, Gunn, IMPATT, TRAPATT, etc., scattering parameters and microwave amplifiers, heterostructures and III-V compound based BJT's and FET's.

16:332:585 ***Sustainable Energy (3)***
This course is designed for the student interested in an overview of the technological methods for obtaining energy from non-renewable and renewable energy sources. The course is divided into three components: Energy Analysis Toolbox, Non-renewable (Fossil) Energy Sources and Renewable Energy Sources.

16:332:586 ***Biosensing & Bioelectronics (3)***
This course seeks to introduce the major biochemical and molecular processes relevant in molecular diagnostics. The curriculum covers an understanding of emerging micro- and nanotechnologies for biomarker-based disease diagnosis and gives insight and understanding to participants to quantitatively evaluate and design biosensing solutions in medical diagnostics. The course explores the interface of biology and engineering, in particular microfluidics, sample preparation, and biosensing in current and emerging technologies. Topics include Intro to Molecular Biology and Physiology, Intro to Cancer Biology, Traditional Diagnostics, Microfluidics: Hydrodynamic Physics, Mass Transfer Affects and Biosensor Performance Limits, Interfacial Electrochemistry/Electrical Biosensing, In-vitro and In-vivo Bioelectronic Devices and Interfaces, Electronic Biosensors, Noise Analysis, Signal Conditioning, Low-Noise Electronic Circuits for Biosensing, Electric Field/Fluid Interactions: Electrokinetics, Micro/Nanofabrication Techniques, Electrokinetics and Sample Preparation, Nanoelectronic Biosensing Devices, Optical Microscopy and Nanophotonic Micromechanical and Magnetic Sensing Techniques.

16:332:587 ***Transistor Circuit Design (3)***
This course introduces the design and application of a broad range of device-oriented circuits in a comprehensive manner. The curriculum includes recent micro/nano-fabrication processes for silicon technology including micro/nano fabrication facilities and instruments. It presents the design of discrete transistor circuit, BJT, MOSFET theory, transistor amplifier for High-frequency and Low-frequency, switching applications, and power applications regarding biasing and noise. Specific topics include Introduction / modern semiconductor fabrication processes, Semiconductor Diode, BJT, MOSFET, Linear amplifiers, Frequency response of Transistor Amplifier, Operational Amplifier, Power supplies, Oscillators, Phase Lock Loops, Frequency Synthesizers, and Non-linear circuits and special devices.

16:332:588 ***Integrated Transistor Circuit Design (3)***
This course introduces the fundamentals and operating principles of three-dimensional transistor (e.g. FinFET) and explores advanced IC design with 3D Transistor and aim to understand the superior performances over conventional 2D MOSFET transistors. The curriculum includes the design of digital integrated circuits based on NMOS, CMOS, bipolar BiCMOS and GaAs FETs; fabrication and modeling; analysis of saturating and non-saturating digital circuits, sequential logic circuits, semiconductor memories, gate arrays, PLA and GaAs LSI circuits.

16:332:589 ***RF Integrated Circuit Design (3)***
Basic concepts in RF design, analysis of noise, transceiver architectures, analysis and design of RF integrated circuits for modern wireless communications systems: low noise amplifiers, mixers, oscillators, phase-locked loops.

16:332:590 ***Socially Cognizant Robotics (3)***
Students of the "Socially Cognizant Robotics" course will learn basic principles and state-of-the-art developments of robotics so as to learn the expected trajectory of this technology and its impact on individuals and society. The course is designed for both STEM students as well as computationally-oriented cognitive and social science students. The interdisciplinary curriculum has seven underlying disciplines spanning STEM fields to social and behavioral sciences. It includes traditionally technical disciplines, such as robot embodiment and control, and extends to areas which support human interaction, such as visual learning and language processing, to cognitive modeling, which enables more high level human-robot cooperation, and finally to areas such as behavioral research and public policy. The course will utilize open-source software libraries in robotics, computer vision, and deep learning. Recent innovations at the intersection of deep reinforcement learning and human behavior modeling will be explored in the context of optimizing collaborative robot action.

16:332:591 ***Optoelectronics I (3)***
Waveguides and optical filters, optical resonators, principles of laser action, light emitting diodes, semiconductor lasers, optical amplifiers, optical modulators and switches, photodetectors, wavelength- division-multiplexing and related optical devices.
Prerequisite: 16:332:580.

16:332:592 ***Optoelectronics II (3)***
Photonic crystals: photonic bandgap, photonic crystal surfaces, fabrication, cavities, lasers, modulators and switches, superprism devices for communications, sensing and nonlinear optics, channel drop filters; advanced quantum theory of lasers: Ferim's golden for laser transition, noise, quantum well lasers, quantum cascade lasers. Nonlinear optics: parametric amplification, stimulated Raman/Brillouin scattering, Q-switching, mode-locked lasers.
Prerequisites: 16:332:591.

16:332:594 ***Solar Cells***
Photovoltaic material and devices, efficiency criteria, Schottky barrier, p-n diode, heterojunction and MOS devices, processing technology, concentrator systems, power system designs and storage.
Prerequisites: 16:332:583 or equivalent.

16:332:595 ***Design Methods for Socially Cognizant Robotics (3)***
Students of the "Design Methods in Socially Cognizant Robotics" course will be exposed to basic principles and state-of-the-art developments of robotics through a hands-on, experiential process. The objective is to learn the expected trajectory of this technology, which will impact individuals and society, and gain the experience of putting together robotics systems that are socially-aware. Learning goals include Develop and utilize socially cognizant design principles, learning to develop and control robotic systems which interact with humans, iplement methods of robot control in the context of human-robot collaboration that emphasizes pro-social performance metrics, developing coding skills in python to integrate vision libraries (opencv), robotics libraries (ROS), or machine learning libraries (pytorch), and demonstrating use of cognitive modeling of human behavior in order to design better collaborative robotic systems that are tuned to human desires and that can be used to learn human intent.
Prerequisite: 16:332:590.

16:332:597 ***Material Aspects of Semiconductors (3)***
Preparation of elemental and compound semiconductors. Bulk crystal growth techniques. Epitaxial growth techniques. Impurities and defects and their incorporation. Characterization techniques to study the structural, electrical and optical properties.
Prerequisite: 16:332:581.

16:332:598 ***Biomedical Technologies: Design and Development (3)***
This is an interdisciplinary course that introduces students to the field of biomedical technologies. Students learn fundamental concepts in the areas of bioelectrical engineering, point-of-care sensors, fabrication, micro/ nano technologies, microfluidics, data processing, and global healthcare applications. The course will provide a detailed background on the engineering principles used for biosensor development. Microelectronic sensor fabrication and characterization of the point-of-care biosensors will be taught. The course also will also introduce students to the on-chip sample processing, surface functionalization techniques, label-free detection of biomolecules, electronic instrumentation, and data processing. Course will highlight the development of personalized predictive systems for health care using machine learning techniques. Course also includes case studies of point-of-care sensors. The course is cross listed for senior undergraduates and starting graduate students.
Prerequisites/Corequisites: Graduate student or undergraduate senior only.

16:332:599:01 ***Advanced Topics in Solid State Electronics (3)***

16:332:618 ***Seminar in Systems Engineering (1)***
Presentation involving current research given by advanced students and invited speakers. Term papers required.

16:332:638 ***Seminar in Digital Signal Processing (1)***
Presentation involving current research given by advanced students and invited speakers. Term papers required.

16:332:640 ***Robotics and Society***
Robotics and Society is an interdisciplinary course, drawing on instructors, theory, and empirical work from the social sciences, policy, engineering, and natural sciences. The course will introduce those with a robotics background to social science theory and methods and, for those with a social science and/or policy or planning

background, a greater understanding of the technology world through course work with students from those disciplines and projects that deepen their technical knowledge. Students will critically examine recent technological advances in robotics with respect to whether and how they meet social needs, and to learn about the social processes that shape technology artifacts and systems. They will focus on applications in which humans and robots closely interact. The module on research methods will provide students a critical understanding the strengths and weaknesses of different methods and provide them the tools to be discerning consumers of research.

16:332:658 ***Seminar in Communications Engineering (1)***
Presentation involving current research given by advanced students and invited speakers. Term papers required.

16:332:678 ***Seminar in Computer Engineering (1)***
Presentation involving current research given by advanced students and invited speakers. Term papers required.

16:332:698 ***Seminar in Solid-State Electronics (1)***
Presentation involving current research given by advanced students and invited speakers. Term papers required.

16:332:601/602 ***Special Problems***
Investigation in selected areas of electrical engineering.
Prerequisite: Permission of instructor.

16:332:699 ***Colloquium in Electrical & Computer Engineering (0)***
This course exposes students to various research specializations through research presentations by distinguished visiting lecturers. Colloquium is a required course for all graduate students.

16:332:701/702 ***Research in Electrical Engineering (1-3)***
Research supervised by faculty in the Department of Electrical and Computer Engineering.

Electrical and Computer Engineering 332 (SGS-ECE)

Application Requirements

Application Requirements

Students with bachelor's degrees in Electrical Engineering, Computer Engineering, Electronics Engineering, Telecommunications Engineering, or a comparable discipline, as well as in closely related areas such as Computer Science, Applied Mathematics,

Statistics, and Physics are eligible for admission into the M.S. and Ph.D. degree programs. An M.S. degree is not a prerequisite to apply for admission into the Ph.D. degree program. An application for admission into the M.S. and Ph.D. degree programs requires the following:

- Personal Statement
- Curriculum Vitae
- Official Undergraduate Transcripts
- Official Graduate Transcripts (if applicable)
- Three (or more) Letters of Recommendation
- Official TOEFL or IELTS Scores (international applicants only)

Note that GRE is not required for the application to be considered complete. Applicants who have already appeared in GRE can submit an unofficial copy of their test scores for consideration by the program.

Electrical and Computer Engineering 332 (SGS-ECE)

Admission Deadlines

Admission Deadlines

The Electrical and Computer Engineering program reviews applications on a rolling basis and admits students in both spring and fall semesters. For best consideration, applicants should adhere to the following deadlines.

Fall Admissions M.S. Applications

- Requesting Financial Aid: March 15
- Non-US Applicants: April 15
- US Applicants: May 15

PhD Applications

- Non-US Applicants (Full Consideration): January 15
- Non-US Applicants (Limited Seats): April 1
- US Applicants (Full Consideration): February 15
- US Applicants (Limited Seats): May 1

Spring Admissions MS Applications

- Requesting Financial Aid: October 1
- Non-US Applicants: October 15
- US Applicants: November 1

Ph.D. Applications

- Full Consideration: October 1
- Non-US Applicants (Limited Seats): October 15
- US Applicants (Limited Seats): November 1

Electrical and Computer Engineering 332 (SGS-ECE)

Graduate Course Descriptions

Graduate Course Descriptions

For an overview of graduate courses that have been approved for the ECE program, students are encouraged to visit the ECE Department website. While a comprehensive range of courses is recognized for the ECE program, it is important to note that only a select subset of these are offered each semester. For the latest information on upcoming course Offerings, it is recommended that students check the Schedule of Classes.

In addition to the standard course list, there are unique course categories to be aware of:

Advanced Topics Courses *(332:519, 332:539, 332:559, 332:579, 332:599)*
These innovative courses offer insights into emerging areas or delve deeper into established topics. Introduced by our graduate faculty, the content and titles of these courses may vary with each semester to reflect the evolving nature of the field.

Special Problems Courses *(332:601, 332:602)*
Tailored for those wanting a more customized learning journey, these "independent study" courses enable students to engage with a curriculum uniquely designed by a faculty member. It is especially suited for research-oriented students keen on diving deep into advanced topics that resonate with their specific research projects

M.S. Core/Elective Courses by Specialization Area

M.S. Core/Elective Courses by Specialization Area

This appendix outlines the core and elective courses tailored for various M.S. program specializations. Students wishing to substitute any of the core or elective courses within their chosen specialization with an unlisted course should formally approach the Graduate Program Office. All such requests should be accompanied by a rationale and, when relevant, an endorsement from the student's thesis advisor.

For certain specializations, some "Advanced Topics" courses—explicitly highlighted below—may qualify for credit towards that specialization. Students should liaise with the Graduate Director (GD) to determine if a particular course topic aligns with the intended concentration.

It is essential to note that this appendix does not explicitly cater to students with cross-cutting specializations. Such students should engage with their thesis advisor (if applicable) and the Graduate Director to develop an alternate study plan.

Communications

Students pursuing the M.S. degree with a specialization in Communications are required to take at least 3 Core courses and 3 Restricted Elective courses from the subsequent lists. In the lists provided below, courses from the ECE department, which count towards the ECE residency requirement, are bolded.

Meanwhile, courses from outside departments are presented in regular typeface. CORE COURSES

- 332:541 Stochastic Signals and Systems
- 332:542 Information Theory and Coding
- 332:543 Communication Networks I
- 332:544 Communication Networks II
- 332:545 Digital Communication Systems
- 332:546 Wireless Communications Technologies
- 332:548 Error Control Coding

- 332:549 Detection & Estimation Theory: Inference & Machine Learning for Engrs RESTRICTED ELECTIVE C OURSES
- 332:501 System Analysis
- 332:505 Control System Theory
- 332:506 Applied Controls
- 332:509 Convex Optimization for Engineering Applications
- 332:515 Reinforcement Learning for Engineers
- 332:519 Advanced Topics in System Engineering (consult GD before registering)
- 332:521 Digital Signal Analytics
- 332:525 Optimum Signal Processing: Signal Process. & Machine Learning for Engrs
- 332:539 Advanced Topics in Digital Signal Processing
- 332:557 Quantum Computing and Communications Algorithms
- 332:558 Quantum Computing and Information Systems
- 332:559 Advanced Topics in Communications Engineering
- 640:411 Mathematical Analysis I
- 640:412 Mathematical Analysis II
- 642:550 Linear Algebra and Applications
- 642:581 Graph Theory
- 643:573 Numerical Analysis I

Signal and Information Processing

Students pursuing the M.S. degree with a specialization in Signal and Information Processing are required to take at least 3 Core courses and 3 Restricted Elective courses from the subsequent lists. In the lists provided below, courses from the ECE department, which count towards the ECE residency requirement, are bolded. Meanwhile, courses from outside departments are presented in regular typeface.

CORE COURSES

- 332:509 Convex Optimization for Engineering Applications
- 332:521 Digital Signal Analytics
- 332:525 Optimum Signal Processing: Signal Process. & Machine Learning for Engrs
- 332:530 Introduction to Deep Learning

- 332:541 Stochastic Signals and Systems
- 332:549 Detection & Estimation Theory: Inference & Machine Learning for Engrs
- 332:557 Quantum Computing and Communications Algorithms
- 332:561 Machine Vision RESTRICTED ELECTIVE C OURSES
- 332:501 System Analysis
- 332:505 Control System Theory
- 332:506 Applied Controls
- 332:510 Optimal Control System
- 332:512 Nonlinear Adaptive Control and Learning For Engineers
- 332:515 Reinforcement Learning for Engineers
- 332:519 Advanced Topics in System Engineering (consult GD before registering)
- 332:532 Multimodal Machine Learning for Sensing Systems
- 332:533 Machine Learning for Inverse Problems
- 332:539 Advanced Topics in Digital Signal Processing
- 332:542 Information Theory and Coding
- 332:558 Quantum Computing and Information Systems
- 332:579 Advanced Topics in Computer Engineering (consult GD before registering)
- 640:411 Mathematical Analysis I
- 640:412 Mathematical Analysis II
- 642:550 Linear Algebra and Applications
- 642:581 Graph Theory
- 643:621 Mathematical Finance I
- 643:622 Mathematical Finance II
- 954:596 Regression and Time Series Analysis for Data Science
- 960:565 Applied Time Series Analysis

Machine Learning

Students pursuing the M.S. degree with a specialization in Machine Learning are required to take at least 3 Core courses and 3 Restricted Elective courses from the subsequent lists. In the lists provided below, courses from the ECE department, which count towards the ECE residency requirement, are bolded. Meanwhile, courses from outside departments are presented in regular typeface.

CORE COURSES

- **332:443 Machine Learning for Engineers (or its corresponding cross-listed course)**
- **332:509 Convex Optimization for Engineering Applications**
- **332:515 Reinforcement Learning for Engineers**
- **332:530 Introduction to Deep learning**
- **332:541 Stochastic Signals and Systems**
- **332:549 Detection & Estimation Theory: Inference & Machine Learning for Engrs**
- **332:561 Machine Vision RESTRICTED ELECTIVE C OURSES**
- **332:505 Control System Theory**
- **332:516 Cloud Computing and Big Data**
- **332:518 Mobile Embedded Systems and On-Device AI**
- **332:521 Digital Signal Analytics**
- **332:525 Optimum Signal Processing: Signal Process. & Machine Learning for Engrs**
- **332:531 Probabilistic Methods for Large Scale Signal Processing and Learning**
- **332:532 Multimodal Machine Learning for Sensing Systems**
- **332:533 Machine Learning for Inverse Problems**
- **332:542 Information Theory and Coding**
- **332:557 Quantum Computing and Communication Algorithms**
- **332:558 Quantum Computing and Information Systems**
- **332:566 Introduction to Parallel and Distributed Computing**
- **332:571 Virtual Reality Technology**
- **332:573 Data Structures and Algorithms**
- **332:539 Advanced Topics in Digital Signal Processing (consult GD before registering)**
- **332:559 Advanced Topics in Communications (consult GD before registering)**

- **332:579 Advanced Topics in Computer Engineering (consult GD before registering)**
- **332:590 Socially Cognizant Robotics**
- **332:595 Design Methods for Socially Cognizant Robotics**
- **332:640 Robotics and Society**
- **198:520 Introduction to Artificial Intelligence**
- **198:530 Principles of Artificial Intelligence**
- **198:533 Natural Language Processing**
- **198:535 Pattern Recognition: Theory and Applications**
- **198:536 Machine Learning**
- **954:596 Regression and Time Series Analysis for Data Science**
- **960:583 Methods of Inference**

Systems and Controls

For students pursuing the M.S. degree with a specialization in Systems and Controls, the following course requirements apply. All students must take at least 3 Core courses. Those choosing the thesis option must also take a minimum of 3 Restricted Elective courses. On the other hand, students pursuing the non-thesis option are required to take at least 4 Restricted Elective courses. A crucial guideline is that every student must select at least one course from List A of the Restricted Elective courses. In the lists provided below, courses from the ECE department, which count towards the ECE residency requirement, are bolded. Meanwhile, courses from outside departments are presented in regular typeface.

CORE COURSES

- **332:501 System Analysis**
- **332:505 Control System Theory**
- **332:506 Applied Controls**
- **332:508 Digital Control Systems**
- **332:512 Nonlinear Adaptive Control and Learning For Engineers**
- **650:504 Advanced Controls I (equivalent to 332:505; credit given for only one) RESTRICTED ELECTIVE C OURSES : LIST A**
- **332:510 Optimal Control Systems**
- **332:514 Stochastic Control Systems**
- **332:515 Reinforcement Learning for Engineers**

- **332:541 Stochastic Signals and Systems**
- **332:509 Convex Optimization for Engineering Applications**
- **650:505 Advanced Controls II RESTRICTED ELECTIVE C OURSES : LIST B**
- **332:519 Advanced Topics in Systems Engineering**
- **332:521 Digital Signal Analytics**
- **332:530 Introduction to Deep Learning**
- **332:532 Probabilistic Methods for Large Scale Signal Processing and Learning**
- **332:533 Machine Learning for Inverse Problems**
- **332:542 Information Theory and Coding**
- **332:543 Communication Networks I**
- **332:549 Detection & Estimation Theory: Inference & Machine Learning for Engrs**
- **332:539 Advanced Topics in Digital Signal Processing (consult GD before registering)**
- **640:507 Functional Analysis I**
- **640:515 Ordinary Differential Equations**
- **640:517 Partial Differential Equations I**
- **640:532 Introduction to Differential Geometry**
- **650:512 Robotics and Mechatronics**
- **650:606 Advanced Mechanical Engineering Topics: Drones I, II**
- **711:557 Dynamic Programming Computer Engineering**

For students pursuing the M.S. degree with a specialization in Computer Engineering, the following course requirements apply. All students are required to take a minimum of 3 Core courses. Among these, at least 2 courses should be selected from List A of Core courses, and at least 1 course must be chosen from List B of Core courses. Those choosing the thesis option must also take a minimum of 3 Restricted Elective courses. On the other hand, students pursuing the non-thesis option are required to take at least 4 Restricted Elective courses. In the lists provided below, courses from the ECE department, which count towards the ECE residency requirement, are bolded. Meanwhile, courses from outside departments are presented in regular typeface.

CORE COURSES : LIST A

- **332:516 Cloud Computing and Big Data**
- **332:518 Mobile Embedded Systems and On-Device AI**

- **332:563 Computer Architecture I**
- **332:564 Computer Architecture II**
- **332:573 Data Structures and Algorithms**
- **198:512 Intro. to Data Structures & Alg. (equivalent to 332:573; credit given for only one)**
- **198:513 Design and Analysis of Data Structures and Algorithms CORE COURSES : LIST B**
- **332:501 System Analysis**
- **332:509 Convex Optimization for Engineering Applications**
- **198:510 Numerical Analysis**
- **198:521 Linear Programming**
- **198:522 Network and Combinatorial Optimization Algorithms**
- **198:524 Nonlinear Programming Algorithms**
- **642:550 Linear Algebra and Applications**
- **642:581 Graph Theory**
- **643:621 Mathematical Finance I**
- **643:622 Mathematical Finance II**
- **643:573 Numerical Analysis I RESTRICTED ELECTIVE C OURSES**
- **332:507 Security Engineering**
- **332:515 Reinforcement Learning for Engineers**
- **332:530 Introduction to Deep Learning**
- **332:539 Advanced Topics in Digital Signal Processing (consult GD before registering)**
- **332:543 Communication Networks I**
- **332:544 Communication Networks II**
- **322:561 Machine Vision**
- **332:566 Introduction to Parallel and Distributed Computing**
- **332:567 Software Engineering I**
- **332:568 Software Engineering for Web Applications**
- **332:569 Database System Engineering**

- **332:571 Virtual Reality Technology**
- **332:574 Computer Aided Digital VLSI Design**
- **332:576 Testing of ULSI Circuits**
- **332:577 Analog and Low-Power Digital VLSI Design**
- **332:578 Deep Submicron VLSI Design**
- **332:579 Advanced Topics in Computer Engineering**
- **198:515 Programming Languages and Compilers**
- **198:518 Operating Systems Design**
- **198:519 Operating System Theory**

Software Engineering

For students pursuing the M.S. degree with a specialization in Software Engineering, the following course requirements apply. All students are required to take a minimum of 3 Core courses. Students opting for the thesis option must take at least 3 Restricted Elective courses, with no more than two (2) from List B of Restricted Elective courses. Conversely, those selecting the non-thesis option need to enroll in a minimum of 5 Restricted Elective courses, with a maximum of three (3) from List B of Restricted Elective courses.

Furthermore, if a student's undergraduate transcripts lack any of the following courses, they must be completed:

- 332:252 Programming Methodology I
- 332:351 Programming Methodology II

Enrollment in these courses requires the graduate director’s approval. Please note, these remedial courses do not contribute to the ECE residency requirement. In the lists provided below, courses from the ECE department, which count towards the ECE residency requirement, are bolded. Meanwhile, courses from outside departments are presented in regular typeface.

CORE COURSES

- **332:563 Computer Architecture I**
- **332:566 Introduction to Parallel and Distributed Computing**
- **332:567 Software Engineering I**
- **332:568 Software Engineering for Web Applications**
- **332:569 Database System Engineering**
- **332:573 Data Structures and Algorithms**
- 198:512 Intro. to Data Structures & Alg. (equivalent to 332:573; credit given for only one)

RESTRICTED ELECTIVE COURSES : LIST A

- **332:503 Programming Finance**
- **332:507 Security Engineering**
- **332:516 Cloud Computing and Big Data**
- **332:518 Mobile Embedded Systems and On-Device AI**
- **332:530 Introduction to Deep Learning**
- **332:543 Communication Networks I**
- **332:544 Communication Networks II**
- **322:561 Machine Vision**
- **332:564 Computer Architecture II**
- **332:571 Virtual Reality Technology**
- **332:579 Advanced Topics in Computer Engineering (consult GD before registering) RESTRICTED ELECTIVE COURSES : LIST B**
- 137:541 Enterprise Software Architecture (in-person section only)
- 137:560 Fundamentals of Systems Engg. for Engg. Management (in-person section only)
- 198:508 Formal Languages and Automata
- 198:515 Programming Languages and Compilers I
- 198:518 Operating Systems Design
- 198:519 Operating System Theory
- 198:530 Principles of Artificial Intelligence
- 198:543 Massive Data Storage and Retrieval
- 198:544 Computer Security
- 198:546 Computer System Security
- 198:553 Design of Internet Services

Electronic Devices, Circuits and Systems

Students pursuing the M.S. degree with a specialization in Electronic Devices, Circuits and Systems are required to take at least 3 Core courses and 3 Restricted Elective courses from the subsequent lists. In the lists provided below, courses from the ECE department, which count towards the ECE residency requirement, are bolded.

Meanwhile, courses from outside departments are presented in regular typeface. CORE COURSES

- **332:574 Computer Aided Digital VLSI Design**
- **332:578 Deep Submicron VLSI Design**
- **332:580 Electric Waves and Radiation**
- **332:581 Introduction to Solid State Electronics**
- **332:583 Semiconductor Devices I**
- **332:587 Transistor Circuit Design**
- **332:588 Integrated Transistor Circuit Design**
- **332:599 Advanced Topics in Solid State Electronics: Semiconductors for AI**
- **332:599 Advanced Topics in Solid State Electronics: Microelectronic Processing**
- **332:599 Advanced Topics in Solid State Electronics: Biosensing and Bioelectronics RESTRICTED ELECTIVE C OURSES**
- **332:557 Quantum Computing and Communication Algorithms**
- **332:558 Quantum Computing and Information Systems**
- **332:589 RF Integrated Circuit Design**
- **332:591 Opto-Electronics I**
- **332:592 Opto-Electronics II**
- **332:594 Solar Cells**
- **332:598 Biomedical Technologies: Design and Development**
- **332:599 Advanced Topics in Solid-State Electronics**
- **635:503 Theory of Solid-State Materials**
- **642:527 Methods of Applied Mathematics I**
- **642:528 Methods of Applied Mathematics II**
- 750:501 Quantum Mechanics I
- 750:601 Solid State Physics I

Ph.D. Qualifying Exam Courses by Specialization Area

Ph.D. Qualifying Exam Courses by Specialization Area

This appendix details the coursework prerequisites for the Ph.D. Qualifying Examination across various Ph.D. specialization areas. For each area, the mandatory courses required to be eligible for the examination are provided, along with potential full-time ECE Department members of the graduate faculty who can serve as examiners. The Graduate Director retains discretion in the selection of examiners, which can include any Full member of the Graduate Faculty.

Students wishing to substitute any core or elective courses must seek approval from the ECE Graduate Program Office beforehand. Requests should justify the change and may need the student's research advisor's endorsement. Late substitution requests may be declined.

The department supports cross-cutting specializations. Students with overlapping interests should collaborate with their research advisor to create a five-course list. This list should align with the guidelines for Ph.D. Qualifying Exam Courses by Concentration. Before registering, they must secure approval from the Graduate Program Office. Retrospective requests are typically not favored without a strong justification.

Communications

Potential Examiners: Aggelos Bletsas, Waheed U. Bajwa, Yingying Chen, Salim El Rouayheb, Zoran Gajic, Shirin Jalali, Narayan Mandayam, Richard Martin, Athina Petropulu, Dario Pompili, Anand D. Sarwate, Emina Soljanin, Predrag Spasojevic, Wade Trappe, Chung-Tse Michael Wu

Coursework Requirements: To be eligible for the Qualifying Exam, students are required to complete 4 Core courses with a collective GPA of at least 3.75 and 1 Mathematics Elective course with a grade of B+ or higher from the provided lists.

CORE COURSES

- 332:509 Convex Optimization for Engineering Applications
- 332:521 Digital Signal Analytics
- 332:525 Optimum Signal Processing: Signal Process. & Machine Learning for Engrs
- 332:541 Stochastic Signals and Systems
- 332:542 Information Theory and Coding
- 332:545 Digital Communication Systems
- 332:548 Error Control Coding
- 332:549 Detection & Estimation Theory: Inference & Machine Learning for Engrs
- 332:557 Quantum Computing and Communications Algorithms

RESTRICTED M ATHEMATICS ELECTIVE COURSES

- 640:411 Mathematical Analysis I
- 640:412 Mathematical Analysis II
- 640:5xx Any course in Mathematics (640) at the 500 level or above
- 642:527 Methods of Applied Mathematics I
- 642:528 Methods of Applied Mathematics II
- 642:550 Linear Algebra and Applications
- 642:581 Graph Theory
- 711:652 Nonlinear Optimization
- 711:685 Special Topics in Operations Research: Convex Analysis and Optimization
- 960:592 Theory of Probability
- 960:593 Theory of Statistics

Networking

Potential Examiners: Aggelos Bletsas, Yingying Chen, Yao Liu, Narayan Mandayam, Ivan Marsic, Richard Martin, Jorge Ortiz, Athina Petropulu, Dario Pompili, Dipankar Raychaudhuri, Anand D. Sarwate, Predrag Spasojevic, Wade Trappe, Zhao Zhang

Coursework Requirements: To be eligible for the Qualifying Exam, students are required to complete 4 Core courses with a collective GPA of at least 3.75 and 1 Mathematics Elective course with a grade of B+ or higher from the provided lists.

CORE COURSES

- 332:509 Convex Optimization for Engineering Applications
- 332:530 Introduction to Deep Learning
- 332:531 Probabilistic Methods for Large Scale Signal Processing and Learning
- 332:532 Multimodal Machine Learning for Sensing Systems
- 332:533 Machine Learning for Inverse Problems
- 332:541 Stochastic Signals and Systems
- 332:543 Communications Networks I
- 332:544 Communications Networks II
- 332:546 Wireless Communication Technologies
- 332:568 Software Engineering Web Applications

- 332:573 Data Structures and Algorithms
- 198:512 Intro. to Data Structures & Alg. (equivalent to 332:573; credit given for only one)
- 198:513 Design and Analysis of Data Structures and Algorithms

RESTRICTED MATHEMATICS ELECTIVE COURSES

- 640:411 Mathematical Analysis I
- 640:412 Mathematical Analysis II
- 640:5xx Any course in Mathematics (640) at the 500 level or above
- 642:527 Methods of Applied Mathematics I
- 642:528 Methods of Applied Mathematics II
- 642:550 Linear Algebra and Applications
- 642:581 Graph Theory
- 711:652 Nonlinear Optimization
- 711:685 Special Topics in Operations Research: Convex Analysis and Optimization
- 960:592 Theory of Probability
- 960:593 Theory of Statistics

Signal and Information Processing

Potential Examiners: Aggelos Bletsas, Waheed U. Bajwa, Kristin Dana, Salim El Rouayheb, Shirin Jalali, Daniel Burbano Lombana, Laleh Najafizadeh, Athina Petropulu, Dario Pompili, Anand D. Sarwate, Emina Soljanin, Predrag Spasojevic, Wade Trappe, Guosong Yang, Yuqian Zhang

Coursework Requirements:

To be eligible for the Qualifying Exam, students are required to complete 4

Core courses with a collective GPA of at least 3.75 and 1 Mathematics Elective course with a grade of B+ or higher from the provided lists.

CORE COURSES

- 332:509 Convex Optimization for Engineering Applications
- 332:515 Reinforcement Learning for Engineers
- 332:521 Digital Signal Analytics
- 332:525 Optimum Signal Processing: Signal Process. & Machine Learning for Engrs

- 332:531 Probabilistic Methods for Large Scale Signal Processing and Learning
- 332:533 Machine Learning for Inverse Problems
- 332:541 Stochastic Signals and Systems
- 332:542 Information Theory and Coding
- 332:545 Digital Communication Systems
- 332:549 Detection & Estimation Theory: Inference & Machine Learning for Engrs
- 332:557 Quantum Computing and Communications Algorithms RESTRICTED M ATHEMATICS ELECTIVE COURSES
- 640:411 Mathematical Analysis I
- 640:412 Mathematical Analysis II
- 640:5xx Any course in Mathematics (640) at the 500 level or above
- 642:550 Linear Algebra and Applications
- 642:581 Graph Theory
- 711:652 Nonlinear Optimization
- 711:685 Special Topics in Operations Research: Convex Analysis and Optimization
- 960:565 Applied Time Series Analysis
- 960:567 Applied Multivariate Analysis
- 960:592 Theory of Probability
- 960:593 Theory of Statistics

Computational Sensing

Potential Examiners: Aggelos Bletsas, Waheed U. Bajwa, Kristin Dana, Shirin Jalali, Laleh Najafizadeh, Jorge Ortiz, Athina Petropulu, Dario Pompili, Anand D. Sarwate, Predrag Spasojevic, Wade Trappe, Yuqian Zhang

Coursework Requirements: To be eligible for the Qualifying Exam, students are required to complete 4 Core courses with a collective GPA of at least 3.75 and 1 Mathematics Elective course with a grade of B+ or higher from the provided lists.

CORE COURSES

- 332:509 Convex Optimization for Engineering Applications
- 332:521 Digital Signal Analytics
- 332:525 Optimum Signal Processing: Signal Process. & Machine Learning for Engrs

- 332:530 Introduction to Deep Learning
- 332:532 Multimodal Machine Learning for Sensing Systems
- 332:541 Stochastic Signals and Systems
- 332:561 Machine Vision
- 332:590 Socially Cognizant Robotics
- 198:534 Computer Vision
- 198:536 Machine Learning

RESTRICTED M ATHEMATICS ELECTIVE COURSES

- 640:411 Mathematical Analysis I
- 640:412 Mathematical Analysis II
- 640:5xx Any course in Mathematics (640) at the 500 level or above
- 960:5xx Any course in Statistics (960) at the 500 level or above
- 642:527 Methods of Applied Mathematics I
- 642:528 Methods of Applied Mathematics II
- 642:550 Linear Algebra and Applications
- 642:581 Graph Theory
- 711:652 Nonlinear Optimization
- 711:685 Special Topics in Operations Research: Convex Analysis and Optimization

Machine Learning

Potential Examiners: Aggelos Bletsas, Waheed U. Bajwa, Yingying Chen, Kristin Dana, Zoran Gajic, Shirin Jalali, Laleh Najafizadeh, Jorge Ortiz, Athina Petropulu, Anand D. Sarwate, Bo Yuan, Yuqian Zhang, Zhao Zhang

Coursework Requirements: To be eligible for the Qualifying Exam, students are required to complete 4 Core courses with a collective GPA of at least 3.75 and 1 Mathematics Elective course with a grade of B+ or higher from the provided lists.

CORE COURSES

- 332:509 Convex Optimization for Engineering Applications
- 332:515 Reinforcement Learning for Engineers
- 332:530 Introduction to Deep Learning

- 332:531 Probabilistic Methods for Large Scale Signal Processing and Learning
- 332:532 Multimodal Machine Learning for Sensing Systems
- 332:533 Machine Learning for Inverse Problems
- 332:541 Stochastic Signals and Systems
- 332:549 Detection & Estimation Theory: Inference & Machine Learning for Engrs
- 332:561 Machine Vision

RESTRICTED M ATHEMATICS ELECTIVE COURSES

- 640:411 Mathematical Analysis I
- 640:412 Mathematical Analysis II
- 640:5xx Any course in Mathematics (640) at the 500 level or above
- 642:527 Methods of Applied Mathematics I
- 642:528 Methods of Applied Mathematics II
- 642:550 Linear Algebra and Applications
- 711:652 Nonlinear Optimization
- 711:685 Special Topics in Operations Research: Convex Analysis and Optimization
- 960:565 Applied Time Series Analysis
- 960:567 Applied Multivariate Analysis
- 960:592 Theory of Probability
- 960:593 Theory of Statistics

Systems and Controls

Potential Examiners: Daniel Burbano Lombana, Zoran Gajic, Guosong Yang, Jingang Yi, Qingze Zou Coursework Requirements: To be eligible for the Qualifying Exam, students are required to complete 4 Core courses with a collective GPA of at least 3.75 and 1 Mathematics Elective course with a grade of B+ or higher from the provided lists.

CORE COURSES

- 332:501 System Analysis
- 332:505 Control System Theory
- 332:506 Applied Controls

- 332:508 Digital Control Systems
- 332:509 Convex Optimization for Engineering Applications
- 332:510 Optimal Control Systems
- 332:512 Nonlinear Adaptive Control and Learning For Engineers
- 332:514 Stochastic Control Systems
- 332:515 Reinforcement Learning for Engineers
- 332:541 Stochastic Signals and Systems
- 650:504 Advanced Controls I (equivalent to 332:505; credit given for only one)
- 650:505 Advanced Controls II RESTRICTED ELECTIVE C OURSES
- 640:411 Mathematical Analysis I
- 640:412 Mathematical Analysis II
- 640:5xx Any course in Mathematics (640) at the 500 level or above
- 642:527 Methods of Applied Mathematics I
- 642:528 Methods of Applied Mathematics II
- 642:550 Linear Algebra and Applications
- 711:652 Nonlinear Optimization
- 711:685 Special Topics in Operations Research: Convex Analysis and Optimization
- 960:592 Theory of Probability
- 960:593 Theory of Statistics

Computer Engineering

Potential Examiners: Yingying Chen, Kristin Dana, Shantenu Jha, Hang Liu, Yao Liu, Ivan Marsic, Jorge Ortiz, Dario Pompili, Deborah Silver, Sheng Wei, Bo Yuan, Zhao Zhang

Coursework Requirements: To be eligible for the Qualifying Exam, students must complete 3 Core courses, 1 Restricted Elective course, and 1 Restricted Mathematics Elective course. The combined GPA of the three Core and the Restricted Elective courses must be at least 3.75. Additionally, students must attain a grade of B+ or higher in the Restricted Mathematics Elective course.

If students have received transfer credits for any of the prerequisite courses mentioned below, these credits cannot be used towards the Qualifying Exam requirement. However, students can replace them with additional Restricted Elective courses. Consequently:

- A student with transfer credit for 1 Core course can take 2 Core courses, 2 Restricted Elective courses, and 1 Restricted Mathematics Elective course.

- A student with transfer credit for 2 Core courses can take 1 Core course, 3 Restricted Elective courses, and 1 Restricted Mathematics Elective course.

- A student with transfer credit for 3 Core courses can take 3 Restricted Elective courses and 1 Restricted Mathematics Elective course.

CORE COURSES

- 332:543 Communication Networks I
- 332:563 Computer Architecture I
- 332:566 Introduction to Parallel and Distributed Computing
- 332:567 Software Engineering I
- 332:573 Data Structure and Algorithms RESTRICTED ELECTIVE C OURSES
- 332:516 Cloud Computing and Big Data
- 332:518 Mobile Embedded Systems and On-Device AI
- 332:530 Introduction to Deep Learning
- 332:544 Communication Networks II
- 322:561 Machine Vision
- 332:579 Advanced Topics in Computer Engineering (consult GD before registering) RESTRICTED M ATHEMATICS ELECTIVE COURSES
- 640:5xx Any course in Mathematics (640) at the 500 level or above
- 642:5xx Any course in Applied Mathematics (642) at the 500 level or above
- 960:5xx Any course in Statistics (960) at the 500 level or above

Software Engineering

Potential Examiners: Shantenu Jha, Dov Kruger, Hang Liu, Yao Liu, Ivan Marsic, Jorge Ortiz, Deborah Silver

Coursework Requirements: To be eligible for the Qualifying Exam, students are required to complete 4 Core courses with a collective GPA of at least 3.75 and 1 Mathematics Elective course with a grade of B+ or higher from the provided lists.

CORE COURSES

- 332:516 Cloud Computing and Big Data

- 332:543 Communications Networks I
- 332:544 Communications Networks II
- 322:561 Machine Vision
- 332:563 Computer Architecture I
- 332:566 Introduction to Parallel and Distributed Computing
- 332:567 Software Engineering I
- 332:568 Software Engineering for Web Applications
- 332:569 Database System Engineering
- 332:571 Virtual Reality
- 332:573 Data Structures and Algorithms RESTRICTED M ATHEMATICS ELECTIVE COURSES
- 640:5xx Any course in Mathematics (640) at the 500 level or above
- 642:5xx Any course in Applied Mathematics (642) at the 500 level or above
- 960:5xx Any course in Statistics (960) at the 500 level or above

C.9. Cybersecurity

Potential Examiners: Yingying Chen, Salim El Rouayheb, Jorge Ortiz, Athina Petropulu, Anand D. Sarwate, Wade Trappe, Sheng Wei

Coursework Requirements: To be eligible for the Qualifying Exam, students are required to complete 4 Core courses with a collective GPA of at least 3.75 and 1 Mathematics Elective course with a grade of B+ or higher from the provided lists.

CORE COURSES

- 332:507 Security Engineering
- 332:530 Introduction to Deep Learning
- 332:542 Information Theory and Coding
- 332:544 Communication Networks II
- 332:548 Error Control Coding
- 332:557 Quantum Computing and Communications Algorithms
- 332:567 Software Engineering
- 332:573 Data Structures & Algorithms

- 332:579 Advanced Topics in Computer Engineering: Hardware and Systems Security
- 198:546 Computer System Security

RESTRICTED MATHEMATICS ELECTIVE COURSES

- 640:5xx Any course in Mathematics (640) at the 500 level or above
- 642:5xx Any course in Applied Mathematics (642) at the 500 level or above
- 960:5xx Any course in Statistics (960) at the 500 level or above

Electronic Devices, Circuits and Systems

Potential Examiners: Umer Hassan, Mehdi Javanmard, Laleh Najafizadeh, Shriram Ramanathan, Chung-Tse Michael Wu

Coursework Requirements:

To be eligible for the Qualifying Exam, students must complete 3 Core courses, 1 Restricted Elective course, and 1 Restricted Mathematics Elective course. The combined GPA of the three Core and the Restricted Elective courses must be at least 3.75.

Additionally, students must attain a grade of B+ or higher in the Restricted Mathematics Elective course.

If students have received transfer credits for any of the prerequisite courses mentioned below, these credits cannot be used towards the Qualifying Exam requirement. However, students can replace them with additional Restricted Elective courses. Consequently:

- A student with transfer credit for 1 Core course can take 2 Core courses, 2 Restricted Elective courses, and 1 Restricted Mathematics Elective course.
- A student with transfer credit for 2 Core courses can take 1 Core course, 3 Restricted Elective courses, and 1 Restricted Mathematics Elective course.
- A student with transfer credit for 3 Core courses can take 3 Restricted Elective courses and 1 Restricted Mathematics Elective course.

CORE COURSES

- 332:580 Electric Wave and Radiation
- 332:581 Introduction to Solid State Electronics
- 332:583 Semiconductor Devices I
- 332:587 Transistor Circuit Design
- 332:588 Integrated Transistor Circuit Design
- 332:599 Advanced Topics in Solid State Electronics: Semiconductors for AI

- 332:599 Advanced Topics in Solid State Electronics: Microelectronic Processing
- 635:503 Theory of Solid-State Materials RESTRICTED ELECTIVE COURSES
- 332:574 Computer Aided Digital VLSI Design
- 332:578 Deep Submicron VLSI Design
- 332:584 Semiconductor Devices II
- 332:589 RF Integrated Circuit Design
- 332:591 Opto-Electronics I
- 332:599 Advanced Topics in Solid State Electronics: Biosensing and Bioelectronics
- 750:501 Quantum Mechanics I
- 750:601 Solid State Physics I

RESTRICTED M ATHEMATICS ELECTIVE COURSES

- 640:5xx Any course in Mathematics (640) at the 500 level or above
- 642:5xx Any course in Applied Mathematics (642) at the 500 level or above
- 960:5xx Any course in Statistics (960) at the 500 level or above

Endocrinology and Animal Biosciences 340 (SGS-EAB)

ENDOCRINOLOGY AND ANIMAL BIOSCIENCES 340

Degree Programs Offered: 4+1 M.S., M.S., Ph.D.

Visit the Endocrinology and Animal Biosciences website.

Program Description

The Endocrinology and Animal Biosciences program is for students who are interested in animal physiology and endocrinology. Our curriculum includes courses offered within the program and from across the university and focuses on four main areas - endocrinology, physiology, molecular biology and biochemistry, and statistics and experimental design. The major areas of interest of our faculty include neuroendocrinology and endocrinology of growth, lactation, and reproduction; gastrointestinal health (the gut microbiome, glucose and amino acid metabolism) and obesity; neurobiology of reproduction, energy balance, stress, motivation, addiction, and mood; endocrine disruption and toxicology; and equine and ruminant nutrition and exercise physiology.

Graduate Program Director: Carey Williams, Ph.D.

Faculty

Tracy G. Anthony, Ph.D., Illinois (Urbana-Champaign)

Carol A. Bagnell, Ph.D., Medical College of Georgia

Nicholas T. Bello, Ph.D., Pennsylvania

Miriam Bocarsly, Ph.D., Princeton

Christoph Buettner, Ph.D., Ludwig Maximillians (Germany)

Wendie S. Cohick, Ph.D., Cornell

Meli'sa S. Crawford, Ph.D., Arizona

Christy Gliniak, Ph.D., Case Western Reserve

Devanshi Jain, Ph.D., University College London (UK)

Morgan James, Ph.D., Newcastle (Australia)

Bridget Matikainen-Ankney, Ph.D., Mount Sinai

Kenneth H. McKeever, Ph.D., Arizona

Zhiping Pang, Ph.D., Texas

Loredana Quadro, Ph.D., Naples (Italy)

Troy A. Roepke, Ph.D., California (Davis)

Diana E. Roopchand, Ph.D., McGill

Mark A. Rossi, Ph.D., Duke

Dipak K. Sarkar, D.Phil., Oxford; Ph.D., Calcutta

Karen A. Schindler, Ph.D., Thomas Jefferson

Igor Shmarakov, Sc.D., Taras Shevchenko Kyiv National University; Ph.D., Yuriy Fed'kovych Chernivtsi National University

Elizabeth Snyder, Ph.D., Washington

Tess Stahl, Ph.D., New Hampshire

Phoebe A. Stapleton, Ph.D., West Virginia

Mehmet Uzumcu, Ph.D., Ohio

Malcolm Watford, D.Phil., Oxford

Carey Williams, Ph.D., Virginia Polytechnic Institute

Shuo Xiao, Ph.D., Georgia

Aparna M. Zama, Ph.D., Georgia

Endocrinology and Animal Biosciences 340 (SGS-EAB)

Ph.D. Degree Requirements

Ph.D. Degree Requirements

Seventy-two (72) credits of graduate work must be completed for the Ph.D. degree, including a minimum of 24 credits of graduate course work in the following core areas: Endocrinology; Physiology; Molecular Biology and Biochemistry; and Statistics and Experimental Design. The remaining credits should be graduate research (Research in Endocrinology and Animal Biosciences 16:340:701,702).

Students must maintain a grade point average of B or better. A maximum of two courses with grades of C can be counted toward the degree. Twelve undergraduate credits at the 300 and 400 level may be taken and applied toward the degree. Be sure to register with a G prefix if you want an undergraduate course to count toward degree credits.

A. Coursework and Research

Core-Area Courses (At least 1 course from each core area. Courses listed in multiple categories can only be used for one core area.)

I. Endocrinology

16:340:510 Neuroendocrinology (3)

16:340:591 Reproductive and Developmental Toxicology (4)

16:340:612 Recent Advances in Endocrinology (2)

II. Physiology

16:340:508 Equine Exercise Physiology (3)

16:340:591 Reproductive and Developmental Toxicology (4)

16:572:501 Advanced Exercise Physiology (3)

16:572:512 Advanced Applied Human Physiology (3)

16:572:511 Neurophysiology of Health (3)

16:963:512 Integrative Organ Physiology (3)

III. Molecular Biology and Biochemistry

16:115:503 General Biochemistry (4)

16:115:504 General Biochemistry (4)

16:115:511 Molecular Biology and Biochemistry (3)

16:115:512 Molecular Biology and Biochemistry (3)

16:340:592 Molecular and Cellular Physiology (3)

IV. Statistics and Experimental Design

16:115:557 Statistics in Biomedical Science (3)

16:125:578 Interdisciplinary Biostatistics Research Training for Molecular and Cellular Sciences: Enhancing Rigor and Reproducibility (3)

16:765:522 Applied Plant Science Statistics (3)

16:960:501 Statistical Theory for Research Workers (3)

16:960:590 Design of Experiments (3)

75:832:504 Introduction to Biostatistics (3)

Other Requirements

Seminar (Register for 2 semesters: 2 credits total).

16:340:693 Seminar in Endocrinology and Animal Bioscience (1)

16:340:694 Seminar in Endocrinology and Animal Bioscience (1)

Ethics Course (Required 1 credit.)

16:115:556:90 Ethical Scientific Conduct (1)

Research (Remaining credits.)

16:340:701 Research in Endocrinology and Animal Biosciences (BA)

16:340:702 Research in Endocrinology and Animal Biosciences (BA)

Undergraduate Courses (Up to 12 credits allowed. *Register with G prefix for an undergraduate course to count toward degree credits.)

01:146:474 Immunology (3)

01:960:401 Basic Statistics for Research (3)

11:067:390:90 Equine Nutrition (3)

11:067:391 Comparative Mammalian Anatomy (3 cr)

11:067:404 Animal Diseases (3)

11:067:430 Animal Microtechniques and Tissue Culture (4)

11:067:450 Endocrinology (4)

11:067:490 Pathophysiology (3)

Additional Courses of Interest

16:370:503 Medical Entomology (3)

16:681:543 Current Concepts of Immunology (3)

16:682:576 Microbiomes and Health (3)

16:709:552 Nutrition: A Biochemical and Physiological Basis (4)

16:709:553 Nutrition: A Biochemical and Physiological Basis (4)

18:844:511 Ethics and Prof. Dev. (3)

16:963:631 Toxicological Pathology (3)

B. Ph.D. Graduate Committee

Each graduate student will select the members of their committee in consultation with their graduate advisor and with the approval of the graduate program director. A Ph.D. committee must have a minimum of 4 members:

- Dissertation advisor (serves as chair of the committee), if there are co-advisors, the two serve as one on a committee.
- At least two other members of the EAB Graduate Faculty
- One committee member from outside the EAB program. This can be either outside of Rutgers, or at Rutgers but outside of our graduate program. (Please submit a CV of any outside committee member.)

C. Qualifying Exams

Satisfactory attainment of proficiency in each of the four core areas (Endocrinology; Physiology; Molecular Biology and Biochemistry; and Statistics and Experimental Design) will ultimately be determined in the advancement to candidacy examination (i.e., Ph.D. qualifying exam). The Ph.D. qualifying exam is comprised of three parts:

1. A written, take-home exam composed of open-ended essay questions designed to test the four core competency areas and evaluated by program faculty and the Academic Standards Committee;
2. An NIH-style research proposal that will form the basis of the dissertation work; and
3. An oral proposal presentation in our weekly seminar series and defense of the proposal before the student's graduate committee followed by a committee meeting and oral Q & A.

Once all degree requirements, including a written dissertation, have been completed, a final research seminar that is open to the Rutgers community is given prior to the dissertation defense, which is conducted by the student's committee as a 'closed door' meeting.

M.S. Degree Requirements

M.S. Degree Requirements

Thirty (30) credits of graduate work must be completed for the M.S. degree, including at least 6 credits of graduate research (Research in Endocrinology and Animal Biosciences 16:340:701,702) culminating in an M.S. research thesis. Courses should be taken in the core areas of Endocrinology, Physiology, Molecular Biology and Biochemistry, and Statistics and Experimental Design. A final research seminar that is open to the Rutgers community is given prior to the thesis defense, which is conducted by the student's committee.

Students must maintain a grade point average of B or better. A maximum of two courses with grades of C can be counted toward the degree. Twelve undergraduate credits at the 300 and 400 level may be taken and applied toward the degree. Be sure to register with a G prefix if you want an undergraduate course to count toward degree credits.

A. Coursework and Research

Core-Area Courses (At least 1 course from each core area. Courses listed in multiple categories can only be used for one core area.)

I. Endocrinology

16:340:510 Neuroendocrinology (3)

16:340:591 Reproductive and Developmental Toxicology (4)

16:340:612 Recent Advances in Endocrinology (2)

II. Physiology

16:340:508 Equine Exercise Physiology (3)

16:340:591 Reproductive and Developmental Toxicology (4)

16:572:501 Advanced Exercise Physiology (3)

16:572:512 Advanced Applied Human Physiology (3)

16:572:511 Neurophysiology of Health (3)

16:963:512 Integrative Organ Physiology (3)

III. Molecular Biology and Biochemistry

16:115:503 General Biochemistry (4)

16:115:504 General Biochemistry (4)

16:115:511 Molecular Biology and Biochemistry (3)

16:115:512 Molecular Biology and Biochemistry (3)

16:340:592 Molecular and Cellular Physiology (3)

IV. Statistics and Experimental Design

16:115:557 Statistics in Biomedical Science (3)

16:125:578 Interdisciplinary Biostatistics Research Training for Molecular and Cellular Sciences: Enhancing Rigor and Reproducibility (3)

16:765:522 Applied Plant Science Statistics (3)

16:960:501 Statistical Theory for Research Workers (3)

16:960:590 Design of Experiments (3)

75:832:504 Introduction to Biostatistics (3)

Other Requirements

Seminar (Register for 2 semesters: 2 credits total).

16:340:693 Seminar in Endocrinology and Animal Bioscience (1)

16:340:694 Seminar in Endocrinology and Animal Bioscience (1)

Ethics Course (Required 1 credit.)

16:115:556:90 Ethical Scientific Conduct (1)

Research (At least 6 credits.)

16:340:701 Research in Endocrinology and Animal Biosciences (BA)

16:340:702 Research in Endocrinology and Animal Biosciences (BA)

Undergraduate Courses (Up to 12 credits allowed. *Register with G prefix for an undergraduate course to count toward degree credits.)

01:146:474 Immunology (3)

01:960:401 Basic Statistics for Research (3)

11:067:390:90 Equine Nutrition (3)

11:067:391 Comparative Mammalian Anatomy (3 cr)

11:067:404 Animal Diseases (3)

11:067:430 Animal Microtechniques and Tissue Culture (4)

11:067:450 Endocrinology (4)

11:067:490 Pathophysiology (3)

Additional Courses of Interest

16:370:503 Medical Entomology (3)

16:681:543 Current Concepts of Immunology (3)

16:682:576 Microbiomes and Health (3)

16:709:552 Nutrition: A Biochemical and Physiological Basis (4)

16:709:553 Nutrition: A Biochemical and Physiological Basis (4)

18:844:511 Ethics and Prof. Dev. (3)

16:963:631 Toxicological Pathology (3)

B. M.S. Graduate Committee

Each graduate student will select the members of their committee in consultation with their graduate advisor and with the approval of the graduate program director. An M.S. committee must have a minimum of 3 members:

- Thesis advisor (serves as chair of the committee), if there are co-advisors, they both count at one
- At least two other members of the EAB Graduate Faculty
- One non-program member is permitted with the approval of the Graduate Program Director but is not required. Their name, professional address, and affiliation must be submitted to the Graduate Program Director and SGS for approval along with a copy of their CV.

Course Descriptions

Course Descriptions

16:340:508 ***Equine Exercise Physiology (3)***
Physiological and environmental factors associated with exercise in the horse.
Prerequisite: An introductory course in physiology.

16:340:510 ***Neuroendocrinology (3)***
The role of the hypothalamus and the pituitary gland in reproduction, stress, growth, biological rhythms, drug addiction, and immunity at the organismic, cellular, and molecular levels.

16:340:591 ***Reproductive and Developmental Toxicology (4)***
The effects of environmental toxicants on reproductive and developmental systems throughout the life span in humans, animal models, and wildlife and the numerous cellular, molecular, and physiological mechanisms involved.
Prerequisite: Background in physiology, especially physiology of reproduction.

16:340:592 ***Molecular and Cellular Physiology (3)***
This course is designed to explore the molecular mechanisms of cell biology as it pertains to mammalian physiology. Specific emphasis is placed on the molecular mechanisms of gene expression and genome function including the role of chromatin and non-coding RNA, translation, cell cycle and division, protein trafficking, cellular metabolism and cell signaling. Other topics include the specific function cellular organelles, DNA repair, mRNA processing and translation, the nuclear pore complex and shuttling between the cytoplasm and nucleus, cytoskeleton, protein trafficking between organelles and through the secretory pathway, lipid synthesis, electron transport, cell homeostasis and apoptosis, extracellular matrix, stem cell development and hematopoiesis, and cellular clocks.

16:340:601,602 ***Non-Thesis Research in Endocrinology and Animal Biosciences (BA,BA)***

16:340:603,604 ***Special Problems in Endocrinology and Animal Biosciences (BA,BA)***

16:340:612 ***Recent Advances in Endocrinology (2)***
A review of metabolic endocrinology, focusing specifically on important areas in endocrinology where major progress has recently taken place.
Prerequisite: Upper-level physiology or endocrinology course.

16:340:693,694 ***Seminar in Endocrinology and Animal Biosciences (1,1)***

16:340:701,702 ***Research in Endocrinology and Animal Biosciences (BA,BA)***

4+1 Non-thesis M.S. Degree Requirements

4+1 Non-thesis M.S. Degree Requirements

Thirty (30) credits of graduate work must be completed for the 4+1 non-thesis M.S. degree. Research is optional. You will need 22 core course credits without research credits or 16 core course credits with research credits. Complete at least ONE course from each of the four core areas: Endocrinology, Physiology, Molecular Biology and Biochemistry, and Statistics and Experimental Design.

Up to two 300-level and/or 400-level courses (6-8 credits) taken during the third or fourth year of undergraduate study (or in the +1 year with a 'G' prefix) can be counted toward the graduate-level requirements if those credits are not counted toward the undergraduate degree. You must complete the Transfer of Credit Application on the SGS forms website.

Students must maintain a grade point average of B or better. A maximum of two courses with grades of C can be counted toward the degree.

A. Coursework and Optional Research

Core-Area Courses (At least 1 course from each core area. Courses listed in multiple categories can only be used for one core area.)

I. Endocrinology

16:340:510 Neuroendocrinology (3)

16:340:591 Reproductive and Developmental Toxicology (4)

16:340:612 Recent Advances in Endocrinology (2)

II. Physiology

16:340:508 Equine Exercise Physiology (3)

16:340:591 Reproductive and Developmental Toxicology (4)

16:572:501 Advanced Exercise Physiology (3)

16:572:512 Advanced Applied Human Physiology (3)

16:572:511 Neurophysiology of Health (3)

16:963:512 Integrative Organ Physiology (3)

III. Molecular Biology and Biochemistry

16:682:531 Basic Biochemistry (3)

16:115:503 General Biochemistry (4)

16:115:504 General Biochemistry (4)

16:115:511 Molecular Biology and Biochemistry (3)

16:115:512 Molecular Biology and Biochemistry (3)

16:340:592 Molecular and Cellular Physiology (3)

IV. Statistics and Experimental Design

16:115:557 Statistics in Biomedical Science (3)

16:125:578 Interdisciplinary Biostatistics Research Training for Molecular and Cellular Sciences: Enhancing Rigor and Reproducibility (3)

16:765:522 Applied Plant Science Statistics (3)

16:960:501 Statistical Theory for Research Workers (3)

16:960:590 Design of Experiments (3)

75:832:504 Introduction to Biostatistics (3)

Other Requirements

Seminar (Register for 2 semesters: 2 credits total).

16:340:693 Seminar in Endocrinology and Animal Bioscience (1)

16:340:694 Seminar in Endocrinology and Animal Bioscience (1)

Ethics Course (Required 1 credit.)

16:115:556:90 Ethical Scientific Conduct (1)

Research Optional (Up to 3 credits per semester - 6 credits total.)

16:340:601 Non-Thesis Research in Endocrinology and Animal Biosciences (BA)

16:340:602 Non-Thesis Research in Endocrinology and Animal Biosciences (BA)

Animal Science Undergraduate Courses (6-8 credits taken during the third or fourth year [or in the +1 year with a 'G' prefix] can be included in the 30 total credits needed for the M.S.. However, these credits CANNOT be counted toward the 120 credits needed to graduate with a B.S. See other courses listed on Degree Navigator as Pre-Vet electives..)

11:067:391 Comparative Mammalian Anatomy (3 cr)

11:067:404 Animal Diseases (3)

11:067:430 Animal Microtechniques and Tissue Culture (4)

11:067:450 Endocrinology (4)

11:067:490 Pathophysiology (3)

Additional Courses of Interest

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18:844:511 Ethics and Prof. Dev. (3)

16:963:631 Toxicological Pathology (3)

B. Capstone Essay

The capstone essay is a detailed literature review of a student-selected topic or question in animal physiology, endocrinology, molecular biology, or biochemistry. Topics should be selected from courses taken during the 4+1 non-thesis M.S. program and will require pre-approval by the Graduate Program Director (GPD). Prior to final submission, intervening deadlines (outlined below) should be met to ensure appropriate progress.

Written communication is an important aspect of many professional positions. Further, reading, synthesizing, and summarizing basic research literature hones logic, independence, and interpretation skills not always emphasized in traditional coursework. This essay provides students an opportunity to gain in-depth knowledge of a topic or question of personal or professional interest.

Students completing the capstone essay successfully will be able to:

- Identify primary literature relevant to their topic/question and interpret it accurately.
- Synthesize information from multiple sources and use it to generate an overall model of the topic or question.
- Clearly communicate advanced concepts in animal physiology, endocrinology, molecular biology, or biochemistry in written form.

English, Literatures in 350 (352 Composition Studies) (SGS-ENGLISH)

ENGLISH, LITERATURES IN 350

Degree Programs Offered: Ph.D.

Website: **Please visit the English graduate website.**

Program Description

The Literatures in English Graduate Program offers comprehensive training in all the major periods of British, U.S., and global Anglophone literature, as well as the history of the book, literary and cultural theory, postcolonial studies, feminist studies, queer and trans studies, African American Studies, and performance studies. Our curriculum provides rigorous training in literary history and form. At the same time, we offer courses in the general area of cultural studies, as well as those that engage in the critical study of historical and current debates about class, race, gender, and sexuality. Offerings are balanced from year to year to make sure students have access to the courses they most need. These courses include a wide range of theoretical approaches, as well as the opportunity to pursue interdisciplinary studies. Course offerings are balanced from year to year to make sure students have access to the courses they most need. Students may also take courses in other departments, notably Women's, Gender, and Sexuality Studies, Africana Studies, History, the language departments, Philosophy, Art History, and Political Science. Rutgers also offers avenues for interdisciplinary study through the Center for Cultural Analysis, the British Studies Center, the Institute for Research on Women, and other organizations Affiliated with the English Department. In addition, students may take courses at nearby universities (including Princeton, Columbia, NYU, and the University of Pennsylvania) through our graduate school consortium.

All stages of the program include workshops and individual supervision tailored to students' evolving intellectual and professional needs. Rutgers has a nationally recognized program in undergraduate writing that enables our students to become effective teachers. In addition to mentored teaching assistantships, we endeavor to provide advanced graduate students the opportunity to teach literature courses of their own design. We have found this training to be an especially compelling feature of our students' dossiers when they apply for academic and non-academic jobs.

The English Graduate Program offers comprehensive training in all the major periods of British, U.S., and global Anglophone literature, as well as the history of the book, literary and cultural theory, postcolonial studies, digital humanities, performance studies, feminist studies, and queer and trans studies. One of our particular strengths is African-American literary studies, in which we have a large group of faculty and students. Our superb faculty, our comprehensive and integrated curriculum, our structured mentoring programs, and our broad range of pedagogical opportunities and training all give our students excellent preparation for work in the academy and beyond. We are proud of our many graduates who have secured jobs teaching literature at a range of institutions in the U.S. and abroad, as well as of those who have used their training to find work in fields like secondary education, digital humanities, writing instruction, public humanities projects, education consulting, libraries and archives, and more.

All stages of the program include workshops and individual supervision tailored to students' evolving intellectual and professional needs. Rutgers has a nationally-recognized program in undergraduate writing that enables our students to become effective teachers. In addition to mentored teaching assistantships, we endeavor to provide advanced graduate students the opportunity to teach literature courses of their own design. And because formal training is only one part of a dynamic graduate education, the department has many structures that facilitate extra-curricular social and intellectual life. Our Graduate English Student Association (GESA) organizes social events, plans colloquia, and provides a forum for student mentorship. Our numerous interest groups sponsor reading groups and regular visitors and workshops in topics like anti-colonial thought, Americanist scholarship, nineteenth-century studies, African American and African Diasporic Studies, early modern and medieval studies, queer and trans studies, modernism and globalization, transatlantic eighteenth-century studies, poetry and poetics, book history, and much more.

Rutgers English provides financial support for all admitted Ph.D. students during the entire course of their studies. A combination of fellowships and teaching assistantships provides students with six guaranteed years of support as they pursue their degree. Funding is not guaranteed beyond the sixth year, although students entering their seventh year will be eligible for competitive university and national fellowships, and some TAships may be available.

A comprehensive guide to our program's structure and policies can be found in our Redbook.

To see some of the extraordinary writing of our graduates, we invite you to visit our Graduate Bookshelf.

Research & Interest Groups

- African American and African Diaspora Interest Group
- Americanist Colloquium
- Anticolonial Working Group
- Critical Pedagogies
- Drama and Performance Group
- Early English Reading Group
- EMRG @ RU: Early Modern Research Group at Rutgers
- Feminist Studies Research Group
- Initiative for the Book
- Long Eighteenth-Century Trans-Atlantic Studies Group
- Medieval/Renaissance Colloquium Research Group
- Modernism and Globalization Research Group
- Modernist Studies Research Group

- Nineteenth Century Research Group
- Poetry and Poetics Research Group
- Post-45 Research Group
- Queer Studies Research Group
- Theory Group

Faculty

Please see the English Department's Faculty Profiles page for additional information.

Matthew Aiello, Ph.D., Pennsylvania

Emily Bartels, Ph.D., Harvard

Matthew Buckley, Ph.D., Columbia

Jeehyun Choi, Ph.D., California (Berkeley)

Ann Baynes Coiro, Ph.D., Maryland

Brad Evans, Ph.D., Chicago

Naomi Extra, Ph. D., Rutgers

Lynn Festa, Ph.D., Pennsylvania

Thomas Fulton, Ph.D., Yale

Martin Gliserman, Ph.D., Indiana (Bloomington)

Andrew Goldstone, Ph.D., Yale

Lauren Goodlad, Ph.D., Columbia

Kristin Grogan, Ph.D., Oxford

Christopher Iannini, Ph. D., CUNY

Olabode Ibironke, Ph.D., Michigan

Allan Punzalan Isaac, Ph.D., New York University

Gregory Jackson, Ph.D., California (Los Angeles)

Colin Jager, Ph.D., Michigan

Ann Jurecic, Ph.D., Princeton

Ryan Kernan, Ph.D., California (Los Angeles)

Stacy Klein, Ph.D., Ohio State

David Kurnick, Ph.D., Columbia

Jeffrey Lawrence, Ph.D., Princeton

Ronald Levao, Ph.D., California (Berkeley)

Heather Love, Ph. D., Virginia

Dana Luciano, Ph.D., Cornell

Christina Lupton, Ph.D. Rutgers

Mukti Mangharam, Ph.D., Cornell

Carter Mathes, Ph.D., California (Berkeley)

Meredith McGill, Ph.D., Johns Hopkins

Ricardo Montez, Ph.D., New York University

Talley Murphy, Ph.D., Brown

Sarah Novacich, Ph.D., Yale

Imani Owens, Ph.D., Columbia

Stephane Robolin, Ph.D., Duke

Larry Scanlon, Ph.D., Johns Hopkins

Kyla Schuller, Ph.D., California (San Diego)

Evie Shockley, Ph.D., Duke

Jonah Siegel, Ph.D., Columbia

Sean Silver, Ph.D., California (Los Angeles)

Evelyn Soto, Ph.D., Pennsylvania

Kurt Spellmeyer, Ph.D., Washington

Michelle Stephens, Ph.D., Yale

Henry Turner, Ph.D., Columbia

Maurice Wallace, Ph.D., Duke

Abigail Zitin, Ph.D., Chicago

Matthew Aiello, Ph.D., Pennsylvania

Emily Bartels, Ph.D., Harvard

Matthew Buckley, Ph.D., Columbia

Jeehyun Choi, Ph.D., California (Berkeley)

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Andrew Goldstone, Ph.D., Yale

Lauren Goodlad, Ph.D., Columbia

Kristin Grogan, Ph.D., Oxford

Christopher Iannini, Ph. D., CUNY

Olabode Ibironke, Ph.D., Michigan

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Henry Turner, Ph.D., Columbia

Maurice Wallace, Ph.D., Duke

Abigail Zitin, Ph.D., Chicago

English, Literatures in 350 (352 Composition Studies) (SGS-ENGLISH)

Degree Requirements

Degree Requirements

Coursework Requirements

500/600 Level Courses
A normal full-time course load is three courses per semester. (Teaching Assistants usually reduce this by one course for each section they teach.)

Courses in the English Graduate Program are offered at the 500 and 600 (or seminar) levels. These levels correspond to different expectations about student workload: 500 courses normally require several short written assignments, while 600 courses normally require a long seminar paper. There is no general distinction in content between the two levels. All 500 and 600 level courses may be either introductory or advanced; individual course descriptions are the best guide to their degree of specialization.

At the end of each semester, students are asked to submit course evaluations of all courses they have taken. These evaluations are held in the Graduate Office where they may be consulted by students choosing courses.

Academic Standing
Students receive written evaluations at all stages of their work in the program, even when they have passed their Qualifying Examinations and are thereby categorized as ABD (All But Dissertation). Their progress is reviewed by the Student Review Committee, which is composed of five faculty members: the Graduate Director, the Associate Director, and three additional members of the graduate faculty. Renewal in the Program depends on making satisfactory progress in the judgment of the Student Review Committee. In the event that the committee recommends against renewal, the student will have three weeks to file an appeal, if s/he chooses, with the Graduate Executive Committee. The appeal shall include a statement from the student introducing new information and/or contextualizing past course evaluations; the former, however, will be particularly important to any reconsideration. The appeal may be accompanied by supporting letters from faculty. It will be decided at the next regularly scheduled meeting of the Graduate Executive Committee by a majority vote of the faculty members of the committee.

For students who are in course work, progress is measured once per semester by the Student Review Committee, by means of written evaluations from each of the faculty with whom the student has taken courses. Satisfactory progress is defined as a combination of A and A- grades. B grades are not considered satisfactory.

For students who are ABD, progress is measured once a year during the Spring Semester by the Student Review Committee, by means of the Dissertation Writer's Report and the Dissertation Director's Evaluation. The Dissertation Writer's Report is a mandatory form all ABD students are required to submit to their Director and to the Graduate Office each January. The Dissertation Director's Evaluation is also submitted to the Graduate Office and is shared with the student. Satisfactory progress is based on these reports and ultimately determined by the Student Review Committee.

Advising
New graduate students will be assigned first-year advisers who will review their course selections, familiarize them with the Graduate Program, answer questions, and assist them in their progress through the program, including helping them choose a new academic adviser if that seems appropriate.

After the first year, students regularly meet with their academic advisers once each term prior to registration to discuss course choices for the following term and to record the fulfillment of distribution requirements on a course work record form which is kept in the student's file. Other meetings may take place according to the needs of the individual student.

The arc of graduate advising stretches from the arrival of students in the program to the pre-exams conference. After the completion of course work, the Exams committee chair and then the dissertation director take over the functions of the adviser.

Students may change advisers at any point during course work. They need only inform the Graduate Office of the change. When students begin teaching they will also be assigned faculty mentors to help them with their teaching responsibilities.

Auditing
Upon obtaining the permission of the instructor of the course and subject to the availability of space, full-time students may audit courses. Students should register with the Graduate Program as auditors and expect to attend all classes, though this requirement may be altered in consultation with the instructor. No academic credit is earned, nor is official record kept of audited courses.

Courses in Other Graduate Programs
Courses offered by graduate programs at other institutions and through the Inter-University Doctoral Consortium may be taken with the approval of the faculty adviser and the Director of Graduate Studies. This is permissible only if a close equivalent is not offered by the Rutgers Graduate Program within a reasonable time period. Students must present to their Faculty Adviser and the DGS a copy of the course description. Students must complete one year of course work within the department before applying to take courses outside of it; the maximum number of such outside courses is two. This maximum applies to all courses taken outside the department, including those taken at other Rutgers departments, such as History or Philosophy. Students interested in taking courses from such departments at Rutgers must also seek approval from their faculty adviser and the DGS prior to registering for the course.

Courses in other Graduate Programs are subject to the same course work deadlines as ordinary courses within the Graduate English Program. This includes submitting the final paper to the Graduate Office by the appropriate deadline date.

Distribution Requirements
Courses taken must satisfy the following distribution requirements:

1. Students must choose at least one course in four of the following five categories:
    1. Medieval Studies
    2. Early Modern Studies
    3. Restoration and Eighteenth-Century Studies; Colonial Studies
    4. Nineteenth-Century Studies
    5. Twentieth-Century Studies
2. Students must choose at least one course in theory or method, defined for these purposes as courses focused on texts in literary and critical theory and philosophy, rather than literary texts. This category would include courses in rhetoric, film theory, gender studies, critical race/ethnic studies, the history of the book, genre theory, cultural studies, etc. that satisfy the above stipulation.
3. Students must choose at least one course whose central study is of a literary tradition outside of the major Anglophone national literatures, English and American, or one that constitutes an alternative tradition or emerging area of study within them. This category would include courses in African-American literature, African diaspora literature, Asian-American literaure, Latino/a literature, writing by women, ethnic studies, global Anglophone literature, gay and lesbian writing, popular culture, working-class literature, etc.
4. Students must choose at least one course in American literature.

Students may satisfy two distribution requirements with a single course if that course is designated as satisfying requirements in more than one category.

All students are strongly encouraged to have significant course experience in each of these fundamental literary modes: poetry, drama, and narrative.

Appropriate courses in film taught by the Rutgers Graduate English program may satisfy distribution requirements within categories A4 and A5.

Final judgment on the distribution requirements satisfied by any given course rests with the Graduate Director and Associate Director.

Students' selection of courses should be made in consultation with their advisers. Fulfillment of distribution requirements will be recorded in the student's file. Students are free to take more than fourteen courses (tuition waivers cover extra courses).

First-Year Discussion Group
First-year students are required to attend the non-credit First-Year Discussion Group. The FYDG meets three to four times a semester. The goals of the FYDG are fourfold: to provide a basic introduction to issues of professionalization, to offer guidance and information about the Rutgers graduate program, to enable first-year students to share their perspectives on making the transition to graduate study, and to introduce students to the extracurricular intellectual life of the department.

The format of these meetings varies: sometimes attendance at an afternoon lecture or job talk is required; sometimes brief readings are assigned.

Foreign Language Requirements
The foreign language requirement is formulated so as to emphasize the relationship between the knowledge of foreign languages and the study of literature. The requirement of a high degree of proficiency in one foreign language may be satisfied in three ways:

1. By passing the Graduate School examination with a mark of “high pass” defined as follows: the entire passage must be translated accurately and with good idiomatic comprehension, meaning that the translation needs to produce an equivalent text in good English; (visit The Language Center for testing dates)
2. By completing with a grade of “A” an intensive summer course for reading knowledge offered free of charge through the Summer Reading Knowledge Course Program
3. By completing with a grade of “A” a course offered by a Rutgers University language department at the 300 level or above; such a course must be approved in advance by the Director or Associate Director.

Unless the student enters with proficiency good enough to pass the Graduate School examination without further preparation, we strongly recommend the second option, the Summer Reading Knowledge Course, as the most efficient and effective.

Students should choose a language relevant either to the history of literatures in English or to their eventual dissertation areas.

It is expected that students will fulfill the foreign language requirement before the beginning of their second year of course work. Students should take any necessary courses during the first year or over the summer following the first year to ensure that this requirement is fulfilled in a timely manner. It is mandatory for students to have fulfilled the requirement by the end of course work. Students who have not done so will not be permitted to take their Qualifying Examinations. Failure to fulfill the requirement on time will also result in loss of eligibility for fellowship, research, and conference travel funding, and could jeopardize renewal in the program.

Independent Study
Independent Study is an unusual arrangement that provides students the opportunity to pursue a plan of study unavailable through coursework. It entails the fulfillment of the same requirements as a seminar - that is, an extensive writing assignment, along with regular meetings (normally weekly or every other week) with a faculty member to discuss a predetermined reading list. To receive course credit for an Independent Study, the student

must come to an agreement with a faculty member on the nature and requirements of the course before the end of the registration period preceding the semester of proposed study. In order to be approved to register for an independent study, the student must present the faculty member, their graduate advisor, and the ADGS with a full reading list and a detailed proposal outlining the course of study, number of assignments and meetings, and other aspects of the plan. The proposal should explain why the proposed study cannot be fulfilled by regular coursework.

Normally, Independent Study may be undertaken only in the later stages of coursework and no student may count more than one Independent Study (other than that taken in preparation for the Qualifying Exams) toward their 42 coursework credits. For students who are taking an Independent Study while preparing for Qualifying Exams, no more than 25% of the independent study reading list may overlap with the exam readings lists. Students should be mindful that directing an Independent Study is not regarded as a normal faculty responsibility; agreement to direct one is entirely at the discretion of the faculty member.

If approved, Independent Studies are subject to the same coursework deadlines as ordinary courses. This includes submitting the final paper to the Graduate Office by the appropriate deadline.

Mentored Teaching Assistantship (MTA)

In their third year, students will be assigned to register in the Mentored Teaching Assistant course during either the fall or spring term. This course will introduce students to methods of instruction in the teaching of literature to undergraduates. The course will be coordinated with each student's Teaching Assistantship assignment, and will include weekly seminar meetings, in which students will explore a range of critical methods and texts, discuss pedagogical practices, and share insights and questions generated by their teaching experiences. The Mentored Teaching Assistant (MTA) course is intended to supplement instruction in composition pedagogy furnished by the Writing Program with formal instruction and mentoring in the teaching of literature.

Pre-Exams Conference

Toward the end of course work and in consultation with the adviser, the student will select a faculty member to serve as Chair of the Examination Committee, which will consist of four faculty members (including the Chair). Students will prepare a reading list in one comprehensive field and two lists in areas of special inquiry. The comprehensive field will be a broad area a candidate has identified as his or her research and teaching specialty; it will be developed in consultation with two faculty members. The special topic lists should provide for breadth of interest and focused research, while typically intersecting with the comprehensive list in some way. Each special topic list will be developed in consultation with one member of the committee.

Students must schedule a pre-exams conference within the first ten weeks of the spring term of their second year. Participants in the pre-exams advising conference normally include the student's academic adviser (or the Exams Chair, if one has been selected) and a second faculty member chosen by the student – someone with whom the student would like to work, either on exams or on the dissertation or both. Students will prepare an informal one-to two-page statement that includes a brief review of course work, ideas about research areas, and consideration of possible exams committee personnel. The statement is not binding in any way. It is produced so that students can reflect on past progress and discuss future plans. Copies of the statement will be submitted to the two faculty members at least one week in advance of the meeting. Discussion at the pre-exams conference should include selection of the remaining members of the Examinations Committee (if they are not already in place), composition of the lists, goals and methods of preparing for the exams, and expectations about meetings with committee members during exam preparation.

The reading list for the comprehensive field should include works essential for study within the field and works the candidate has identified for his or her particular research interests. The reading lists for special topic areas are more selective and aim to be representative as well as specialized. The department has no set number of texts for each list. As a guide, however, one might consider the comprehensive field to be equivalent to the reading for three courses and a special topic list to be half that amount; a comprehensive list might have 60-70 texts, and a special topic list 30-40. Individual examiners will approve the list for each field.

Preliminary reading lists must be submitted to the graduate office after the second year of study on May 15th (together with a copy of the Pre-Exams Statement and the Ph.D. Qualifying Committee Form). It is the student's responsibility to circulate reading lists to all four members of the Examinations Committee. Finalized, official reading lists must be submitted to the graduate office by December 1st of the third year. Official lists cannot be modified after this date except in cases where students request a modification and are granted approval. Again, it is the responsibility of the student to circulate these official lists to all four members of the Committee. Students should negotiate a schedule of pre-examination meetings with each of their committee members.

Ph.D. Qualifying Examination

In the spring semester of their third year, students will register for 3 credits of Independent Study (nominally, with the Director of Graduate Studies). Students should devote the time these Independent Study credits provide to reading from their lists and meetings with faculty members in preparation for the examinations. If the adviser approves, students may register for one course in the fall of the third year and one course in addition to the independent study credit in the spring of the third year, rather than registering for two courses in the fall and none in the spring of that year.

The Qualifying Examination is taken during the study and exam days period immediately following the spring semester of the third year.

Written Exam

Each examiner will compose one question. These will probe for breadth and synthesis and may indicate specific texts or a number of texts that the student must consider, although there is no set format prescribed. The student will choose two of these questions and write a 10-pp. double-spaced essay responding to each; at least one question must be taken from the two submitted by examiners in the comprehensive field, but the other can be selected from those submitted by special topic examiners. The exam will be an open-book take-home, completed within 72 hours. The two essays will then be circulated to all four examiners. There will be no formal evaluation of the written until the conclusion of the oral. All students will proceed to the oral.

Oral Exam

The exam will consist of four modules: a 45-minute discussion of the comprehensive field, with both examiners in open discussion with the student; two 30-minute discussions, one conducted by each examiner of the special topic lists; and a 15-minute concluding conversation involving the student and all members of the committee, which should aspire to make connections between and among the exam topics and lists. The sequencing of the first three modules will be at the discretion of the student. The written essays may serve as points of departure for appropriate sections of the oral exam, although the amount of time devoted to discussion of the essays is at the discretion of the examiners. The oral should not be conceived narrowly as a defense of the written.

The student's performance on the examination as a whole will be judged on a pass/fail basis. In the event of failure, the student may petition the Graduate Director for permission to take the relevant part(s) of the examination a second time, but approval is not automatic and this may not be done more than once.

Qualifying Examination Workshop
All students are urged to join a Qualifying Examination workshop in the semester of the completion of their required course work or in the following semester. These workshops provide a loose structure within which students may come together to form small, self-directed study groups to help in preparing for the Qualifying Examination. Groups may be formed according to shared areas of concentration.

Dissertation Defense

Dissertation
Advancement to candidacy for the Ph.D. requires both passing the Qualifying Examination and filing the dissertation proposal. Click here to view the Writing Benchmarks for Dissertating Students.

Initial Steps
Within two weeks of passing the Qualifying Examination, the student should meet with his or her dissertation director to begin working on the proposal. If the student does not have a director lined up, he or she will need to find one in consultation with the Chair of the exams committee and, if the student wishes, the Graduate Director or Associate Director. The dissertation director will then help the student select two additional members of the committee, or "readers."

The Dissertation Committee
At the proposal stage, only the director and two additional readers need be selected. All committee members must be members of the English Graduate Faculty, which can include faculty from other Rutgers University departments. The graduate office must be informed at this time about the composition of the dissertation committee. Students should consult with each member of their committee and agree upon a schedule for submitting drafts of chapters. Please note that there is no technical limit on the number of members a committee can have; once the three EGF members are in place, additional members, including those from other universities, may be included in the committee with the approval of the dissertation director. Students should consult with each member of their committee and agree upon a schedule for submitting drafts of chapters.

The outside reader, whether from another department within the university or from outside the university, can be chosen when the dissertation is under way. After an outside reader has agreed to serve, the student should notify the Graduate Office, who will inform the Graduate School. The degree to which outside readers are involved in the chapter-by-chapter progress of the dissertation varies. They may be as involved as the department readers, but sometimes they are in a position to read only the final dissertation.

The Dissertation Proposal
The dissertation proposal is an initial and exploratory attempt to formulate the dissertation project. It should identify a problem or issue that previous scholarship has overlooked or treated inadequately and it should set out a program of research that is likely to lead to an original and illuminating treatment of the question it addresses. The proposal should not attempt to be that treatment, or even a summary of it; its function is to raise the issue and sketch an approach to it. It should address any major publications that have dealt with the same issue in order to indicate what remains to be done, and set out the various stages of the work that lie ahead. The proposal is just that:

a set of suggestions that will inevitably prove inadequate once the real work begins. What is required is sufficient evidence that there is a real question, or set of questions, being asked – questions of the kind that are appropriate to a dissertation and thus neither too narrow nor too ambitious.

The proposal should be no more than 10 double-spaced pages (approximately 2500 words), not including the bibliography. The bibliography (30-40 entries) should include works both read and unread that are likely to be important for the project.

Timing and Procedure
The approved dissertation proposal is due on September 15th in the fourth year.

The student will prepare this proposal in consultation with the committee. The director will guide the student through a series of discussions and drafts. When the director agrees that the student has projected a clear and workable project, and that the bibliography is sufficiently developed, the student will prepare a final draft. The student will then hand in the completed proposal to the Graduate Office and this will constitute advancement to candidacy.

Dissertation Workshop
All students are urged to join a dissertation workshop. These workshops provide a loose structure within which students may come together to form self-directed study groups to help in the writing of the dissertation. Depending on the numbers involved, groups might be formed according to shared areas of concentration.

Defense of Dissertation
When the dissertation director is satisfied that the dissertation is acceptable, the student will submit a copy, together with the abstract, to each member of the committee, including the outside reader. At this time, and with the director's approval, a defense can be scheduled. Final responsibility for approving the submission of the dissertation and proceeding to the defense rests with the dissertation director. The complete dissertation should normally be submitted to all members of the committee at least one month before the scheduled defense, barring emergencies. Faculty often need that much time to read the dissertation carefully and prepare for the defense. When all committee members and the student agree on a date and time, the student must inform the Graduate Office.

In addition, the student must make arrangements to meet with the Graduate School's administrator prior to their defense to ensure the following: that the dissertation style conforms to the Graduate School's requirements, which are set out in a booklet available from the Graduate Office, and to receive the paperwork necessary for filing of the dissertation and of the diploma application.

The defense consists of a one-hour meeting of the committee with the student. Upon completion of the defense, the student must submit one electronic copy of the dissertation to the Graduate School.

Embargoing Dissertations
The Graduate School automatically places dissertations online, where they can be accessed by any member of the public. In order to protect students' intellectual property rights, and to help ensure that they have a chance to publish their work before it can be appropriated by others, the Graduate School "embargoes" dissertations for one year before putting them online. If a student feels his or her work should be protected for a longer period, the student can petition the Graduate School to extend that embargo for up to five years. Such petitions should be directed to the Associate Dean for Academic Affairs at the Graduate School.

Course Descriptions

Course Descriptions

16:350:501,502 ***Independent Study (3,3)***
An independent study course in directed readings available only by special arrangement.

16:350:503 ***Studies in Narrative Form (3)***
Types of narrative (the tale, legend, romance, epic) and their relation to the novel.

16:350:504 ***Studies in Dramatic Form (3)***
Types of drama (comedy, tragedy, history, melodrama) and their relation to theater and performance.

16:350:505 ***Studies in Poetic Form (3)***
Types of poetry (epic, dramatic, lyric) and particular poetic forms; conventions; movements (sonnet, elegy, epigram, ballad, ode, free verse, imagist poetry, symbolist poetry); and their relation to various expressive conventions and techniques.

16:350:506 ***Literary Theory I: Beginning through the 18th Century (3)***
Conventions and recurrent problems in critical discourse from Aristotle to Kant.

16:350:507 ***Literary Theory II: Nineteenth Century to the Present (3)***
Establishment of the modern aesthetic understanding of literary discourse and efforts to modify or revise it.

16:350:508 ***Critical Methodologies: Primary Texts (3)***
Examination of selected major theoretical texts that inform the practice of literary study.

16:350:509 ***Studies In Critical Methodologies (3)***
History and practices of literary theory: Marxist, psychoanalytic, and feminist approaches; structuralism, poststructuralism; cultural studies.

16:350:510 ***Theories of Gender and Sexuality (3)***
Key texts, authors, issues, and problems in the history of gender and sexuality.

16:350:511 ***Studies in Colonial/Postcolonial Theory (3)***
Theoretical writing, emerging during and after the transition from colonialism to national independence in Asia, Africa, and other areas of the world. Authors who have explored and debated the meaning and the limits of decolonization.

16:350:512 ***Cultural Studies (3)***
Examines fundamental assumptions in the understanding of culture; attempts to give students the interpretative skills to engage critically with contemporary cultural contexts.

16:350:513 ***New Technologies: Texts, Subjects, Communities (3)***
Introduction to theoretical perspectives on electronic culture and communication in relation to literary studies; examination of the implications of digital and information technologies for text, representation, subjectivity, embodiment, and community.

16:350:514 ***Literature and Politics (3)***
Study of literary texts directly connected to political debate and of critical theories, especially Marxist criticism, generated by the intersection of politics and literary form.

16:350:515 ***Myth, Religion, and Literature (3)***
Recurrences and transformation of mythic and religious motifs in selected texts.

16:350:519 ***History and Criticism of Film (3)***
Development of film as an art form: film technique, theoretical and practical criticism.

16:350:520 ***Studies in Film (3)***
Selected topics in film studies, such as women and film, literature and film, or film and society.

16:350:525 ***Literary Pedagogies (3)***
Study and practice (through the Mentored Teaching Assistant Program) in the methods of undergraduate instruction in literature. The art of composing syllabi, lectures, class discussion, and assignments and the art of identifying and communicating basic strategies of literary criticism.

16:350:528,529 ***Studies in Old English (3,3)***
First semester: introduction to Old English grammar with readings from selected texts. Second semester: *Beowulf.*

16:350:530 ***Chaucer (3)***
Major works of Geoffrey Chaucer, including *Troilus and Criseyde* and *The Canterbury Tales*, in relation to late medieval culture.

16:350:531 ***Studies in Medieval Literature (3)***
Relations between English medieval literature and other literatures, such as classical and continental; literary relations with other disciplines, such as folklore, history, and anthropology.

16:350:532 ***Gender and Sexuality in Medieval Literature and Culture (3)***
Consideration of sexual difference, virginity, medical practices, and social structures for gender regulation.

16:350:533 ***Medieval Drama (3)***
Medieval drama from the 11th through the early 16th century: investigation of surviving scripts and material production, with attention to recent developments in gender studies, performance theory, and cultural studies.

16:350:536,537 ***Studies in Renaissance Literature (3,3)***
Major writers of the 16th and early 17th centuries approached through modern critical ideas of form, genre, convention, theme, and style.

16:350:538 ***Forms of Renaissance Literature (3)***
Studies in literary forms that gave expression to major themes in the 16th and early 17th centuries: heroic, pastoral, satirical, tragic, and comic.

16:350:539 ***Renaissance Drama (3)***
Readings from selected Tudor and Stuart playwrights. 16:350:540 Shakespeare (3) General study of Shakespeare's works.

16:350:541 ***Milton (3)***
Milton's poetry and selected prose.

16:350:542 ***Studies in the 17th Century (3)***
Survey of 17th-century literature, including Jacobean, Caroline, Civil War, interregnum, and Restoration poetry, prose, and drama. Study of influential literary historical and theoretical narratives written about this century.

16:350:546 ***British Poetry and Nonfiction Prose of the Early Enlightenment (3)***
Readings from Dryden to Pope.

16:350:547 ***British Poetry and Nonfiction Prose of the Later Enlightenment (3)***
Readings from Johnson to Preromanticism.

16:350:548 ***Restoration and 18th-Century Drama (3)***
Restoration comedy, tragedy, heroic play, and dramatic criticism; 18th-century survivals and transformations.

16:350:549 ***The Early English Novel (3)***
Emergence of prose fiction as a literary genre and its evolution into a complex and self-conscious form. Texts by Defoe, Richardson, Fielding, Sterne, Smollett, Scott, and Austen.

16:350:550 ***Studies in 18th-Century Literature and Culture (3)***
The main modes, actions, and styles in 18th-century writing.

16:350:551 ***Gender and Sexuality in 18th-Century Literature and Culture (3)***
Readings in Restoration and 18th-century literature that illuminate questions of erotics and gender. Texts by Rochester, Behn, Manley, Haywood, Cleland, Wollstonecraft, and others.

16:350:553 ***Studies in Early American Literature and Culture (3)***
A limited number of major American writers of common historical background and intellectual temper.

16:350:554 ***Colonial Anglo-America (3)***
Selected colonial and early 19th-century writers, with emphasis on modern scholarship, criticism, and intellectual history.

16:350:555 ***Early National U.S. Literature (3)***
Writings from the Revolution to the 1820s and 1830s. Texts by Paine, Jefferson, Equiano, Wheatley, Rowson, Foster, Brown, Irving, Cooper, and others.

16:350:556 ***American Antebellum Writing (3)***
Study of what is often called the American Renaissance, from the 1830s to the Civil War. Texts by Emerson, Thoreau, Hawthorne, Melville, Poe, Whitman, Stowe, and others.

16:350:559 ***American Drama and Culture (3)***
Historical and contemporary efforts to understand American drama's position, role, and status within local, national, and international cultures.

16:350:560 ***American Cultural Studies (3)***
Survey of American cultural studies and exercises in its practice. Texts by Berlant, Brenkman, and others; a range of literary and cultural materials.

16:350:561 ***The Romantic Century (1750-1850) (3)***
Aspects of British writing leading up to, including, and succeeding the Romantic period in England (1785-1835). Study of the evolution of key literary genres in relation to historical developments in culture and society.

16:350:562 ***Studies in Romanticism (3)***
The revolt against tradition and the redefinition of poetry and the poet.

16:350:563 ***Fiction of the Romantic Period (3)***
The rise of the novel in the context of the Romantic movement. Interrogation of assumptions governing Romanticism and realism in English prose fiction, 1770-1830.

16:350:566 ***Studies in 19th-Century Literature and Culture (3)***
Study of the major preoccupations and styles of the period in nonfiction, poetry, and the novel. Emphasis on the effects of historical and social developments.

16:350:567 ***Nineteenth-Century Theater and Culture (3)***
Consideration of the genres of 19th-century theater, as well as popular forms of performance and spectatorship outside the theater.

16:350:568
The Victorian Fin de Siècle Study of aesthetic and philosophical developments in Pater, Meredith, Hardy, Conrad, Wells, Beerbohm, and others.

16:350:569 ***Victorian Cultural Studies (3)***
Material and methods of Victorian cultural studies. Consideration of effects of the French Revolution; technological innovation; newly consolidating economic systems. Texts by Burke, Schiller, Carlyle, Mill, Arnold, and others.

16:350:570 ***Gender and Sexuality in Victorian Literature and Culture (3)***
Study of the relationships between gender representations in political and literary writing and female experience in Victorian England.

16:350:571 ***Victorian Poetry (3)***
Introduction to English poetry from the late 1820s to the early 1900s. Works of Tennyson, Robert Browning, Elizabeth Barrett Browning, Hopkins, Yeats, Landon, Hemans, Field, and others.

16:350:572 ***Victorian Fiction (3)***
Readings in selected novels and novelists from about 1800 to 1900, drawing especially on the works of Scott, Dickens, Thackeray, the Brontës, George Eliot, and James.

16:350:573 ***Transatlantic 19th-Century Studies (3)***
The transatlantic formation and contestation of literary forms and cultural politics.

16:350:574 ***Nineteenth-Century Discourses of Race, Nation, and Empire (3)***
Discourse theory and its application in the politically charged domains of race, nation, and empire. Theoretical works of Foucault, Bakhtin, Said, Anderson, and others.

16:350:576 ***Studies in 19th-Century American Literature and Culture (3)***
A limited number of major American writers of common historical background and intellectual temper.

16:350:577 ***Nineteenth-Century American Poetry (3)***
Examination of the exchange between public and private verse in 19th-century American poetic culture. Texts by Bryant, Holmes, Longfellow, Jackson, Whitman, Dickinson, Dunbar, and others.

16:350:578 ***Later 19th-Century American Fiction (3)***
Writings of the last half of the 19th century, with some extension into the 20th century.

16:350:579 ***Studies in 19th-Century African-American Literature and Culture (3)***
Literary forms that give expression to major themes in 19th-century African-American literature: authenticity, authority, literacy, freedom, and nationhood.

16:350:584 ***Early Modernisms and the Historical Avant-Garde (3)***
Modernism and the historical avant-garde as antithetical yet complementary moments in late 19th- and early 20th-century Europe and the United States.

16:350:585 ***Dramatic Modernisms (3)***
Drama and performance as transatlantic modernist forms. Philosophical, social, and political questions in Ibsen, Hurston, Brecht, Stein, and others.

16:350:586 ***Early 20th-Century Poetry (3)***
Hardy, Yeats, Pound, Eliot, Stevens, and others. 16:350:587 Early 20th-Century Fiction (3) Hardy, James, Joyce, Woolf, and others.

16:350:588 ***Twentieth-Century African-American Literature and Culture (3)***
Works of various black American writers, read in conjunction with other examples of American literature of the 20th century.

16:350:589 ***Studies in African-American Literature and Culture (3)***
African-American literature in relation to the multiple literary and historical contexts from which it is produced. Course may highlight specific topics (writing by black women) or genres (the essay).

16:350:590 ***Later 20th-Century Fiction (3)***
Prose fiction written in English since World War II in relation to questions raised by critical theory, cultural studies, and literary criticism.

16:350:591 ***Later 20th-Century Poetry (3)***
Study of continuity and change in the poetry of the mid-20th century. Focus on several pivotal figures in their social and political contexts.

16:350:592 ***Later 20th-Century Drama and Performance (3)***
Later 20th-century drama and performance, both in relation to high modernist and postmodern cultures.

16:350:593 ***Studies in Ethnic American Literatures and Cultures (3)***
Central texts of English and American literature from the perspective of minorities and non-Western people.

16:350:594 ***Twentieth-Century Literature and Culture (3)***
Twentieth-century texts and authors in relation to cultural developments: aesthetic pluralization, war, secularization, diaspora, capitalism, and technology.

16:350:595 ***Postcolonial Literatures and Cultures (3)***
Introduction to Anglophone (and some non-Anglophone) literature and to theoretical debates concerned with colonialism and decolonization in Africa, South Asia, and the Caribbean.

16:350:596 ***Studies in Modernism (3)***
Literary modernism (1880-1945) including genres, techniques, philosophical questions, historical and cultural contexts, and social and political issues.

16:350:597 ***Studies in Postmodernism (3)***
Literatures and performances of postmodernism, late 1950s-2000, including genres, techniques, and theories, as well as cultural and political debates and movements.

16:350:598 ***Contemporary Literature and Culture (3)***
Diverse works in fiction, poetry, drama, and film, created over the past 15 to 20 years, that contribute to our sense of the contemporary moment.

16:350:601,602 ***Readings in British and American Literature (3,3)***
Intensive reading in any period of English and American literature in preparation for the Ph.D. qualifying examination.

16:350:603 ***Seminar: Genre Theory (3)***
Investigation into the nature and utility of the category of genre in literary theory and practice.

16:350:604 ***Seminar: Theories of Narrative (3)***
Narrative forms (biography, case history, ethnography) in relation to the novel as genre and the interdisciplinary theory of narrative.

16:350:605 ***Seminar: Feminist Theories and Controversies (3)***
Intensive investigation of theoretical arguments in second-wave feminism concerning subjectivity, the body, agency, experience, community, and the challenges of postmodern and postcolonial theory.

16:350:606 ***Seminar: Topics In Cultural Studies (3)***
Investigation of texts and materials using the methods of cultural studies to illuminate a question or problem of contemporary interest.

16:350:607 ***Seminar: Topics in Criticism and Theory (3)***
Selected texts in literary and cultural criticism; organized around a key theoretical issue.

16:350:608 ***Seminar: Topics in Colonial/Postcolonial Theory (3)***
Theoretical approaches to literatures and cultures produced within or in response to the experience of colonization.

16:350:611 ***Seminar: Chaucer (3)***
Chaucer's works and issues for research: history of criticism, theoretical frameworks, and relations between Chaucer and his late medieval milieu.

16:350:612 ***Seminar: Medieval Literature (3)***
Works of writers other than Chaucer; topics such as advanced Old English language and literature, the Arthurian tradition, Middle English dialects, women mystics, lyric poetry, and medieval literary theory.

16:350:613 ***Seminar: Medieval Romance (3)***
English and continental works, such as *Sir Gawain and the Green Knight*, Malory's *Le Morte d'Arthur*, and the *Romance of the Rose* considered in generic terms as well as from other perspectives such as historicist, feminist, and poststructuralist.

16:350:616 ***Seminar: Spenser and His Contemporaries (3)***
Study of the poetry and related criticism.

16:350:617 ***Seminar: Renaissance Drama (3)***
Aspects of form in Elizabethan drama, with some attention to Shakespeare. Staffing, dramatic structure, conventions of character, the interplay of verbal and nonverbal symbolism.

16:350:618 ***Seminar: Topics in Shakespeare (3)***
Selected poems and plays; readings in related materials.

16:350:619 ***Seminar: Gender and Sexuality in Renaissance Literature (3)***
Exploration of representations of gender and sexuality, constructions of masculinity and femininity, and conditions of writing for women in the Renaissance.

16:350:620,621 ***Seminar: Topics in Renaissance Literature and Culture (3,3)***
Topics of significant contemporary interest in the study of Renaissance literature and culture.

16:350:622 ***Seminar: Topics in 17th-Century Literature and Culture (3)***
Topics of significant contemporary interest in the study of 17th-century literature and culture.

16:350:624 ***Seminar: Eighteenth-Century Nonfiction Prose (3)***
Study of motives, conventions, styles, and cultural contexts with emphasis on politics and rhetoric. Texts by Swift, Pope, Johnson, and their contemporaries.

16:350:626 ***Seminar: Eighteenth-Century Novel (3)***
Studies in Defoe, Fielding, Richardson, Sterne, Austen, and their contemporaries.

16:350:627 ***Seminar: Eighteenth-Century Poetry (3)***
Studies in Dryden, Pope, Gray, and their contemporaries.

16:350:628 ***Seminar: Eighteenth-Century Literary Criticism and Theory (3)***
Major critical writings of Dryden, Addison, Johnson, and Reynolds; classical and continental backgrounds; the emergence of post-Augustan theories of imagination.

16:350:629 ***Seminar: Topics in 18th-Century Literature and Culture (3)***
Topics of significant contemporary interest in the study of 18th-century literature and culture.

16:350:632,633 ***Seminar: Topics in Romantic Literature and Culture (3,3)***
Critical study of two or more romantic poets in the context of the British and continental romantic movement.

16:350:634,635 ***Seminar: English Romantic Poets (3,3)***
Critical study of the major works. Consideration of the relationship of Wordsworth and Coleridge and of their differing critical concepts.

16:350:636 ***Seminar: Jane Austen in Context (3)***
Novels of Jane Austen considered in the contexts of 18th-century literature and social history, and of Victorian and modern criticism of fiction.

16:350:639 ***Seminar: Victorian Prose (3)***
Study of one or more 19th-century prose writers (Carlyle, Mill, Newman, Darwin, Arnold, Ruskin, Pater) in historical and cultural contexts and in relation to current theoretical discussions of prose writing.

16:350:640 ***Seminar: Victorian Poetry (3)***
Study of one or more Victorian poets (Tennyson, Barrett Browning, Browning, Arnold, Christina Rossetti, the Pre-Raphaelites, Hardy, Hopkins) in relation to genre, form, and cultural situation.

16:350:641 ***Seminar: Victorian Fiction (3)***
Study of one or more major writers (Scott, Dickens, Thackeray, the Brontës, George Eliot, and Hardy) in conjunction with other genres in the period and current theoretical work on narrative.

16:350:642 ***Seminar: Topics in 19th-Century Literature and Culture (3)***
Topics of significant contemporary interest in the study of 19th-century literature and culture.

16:350:645 ***Seminar: Colonial and Early 19th-Century American Literature (3)***
Selected works and related scholarship.

16:350:646 ***Seminar: Nineteenth-Century American Fiction (3)***
Consideration of the American romance; Gothic and Puritan influences in Irving, Cooper, Poe, Hawthorne, Stowe, Melville, Alcott, Twain, Howell, and James.

16:350:647 ***Seminar: Nineteenth-Century American Poetry (3)***
Major texts of Whitman and Dickinson; Whitman's influence on modern poets of the "open form"; conflicts of self and culture.

16:350:648 ***Seminar: American Women Writers (3)***
Cather, Glasgow, Wharton, Stein, and others in the context of the literature and social environs in which they worked.

16:350:649 ***Seminar: Major Authors in American Literature (3)***
Significant texts and criticism; social and cultural contexts.

16:350:650 ***Seminar: Major Authors in Anglophone Literature (3)***
Significant texts and criticism; social and cultural contexts.

16:350:653,654 ***Seminar: Topics in 20th-Century Studies (3,3)***
Topics of significant contemporary interest in the study of 20th-century literature and culture.

16:350:655 ***Seminar: Topics in African-American Literature and Culture (3)***
Topics of significant contemporary interest in the study of African-American literature and culture.

16:350:656 ***Seminar: Performance and Postmodern Theater (3)***
Performance from DADA through the Situationists, Fluxus, and "performance art." Performance theory and practice in relation to dramatic texts and critical and social theory since the 1960s.

16:350:657 ***Seminar: Twentieth-Century Poetry (3)***
Major works of selected 20th-century poets; critical and cultural contexts.

16:350:658 ***Seminar: Twentieth-Century Fiction (3)***
Major works of selected 20th-century novelists; critical and cultural contexts.

16:350:659 ***Seminar: Literary Criticism and Social Critique (3)***
Literary criticism as a method of social analysis; consideration of the overlap of politics and aesthetics.

16:350:660 ***Seminar: Topics in Colonial/Postcolonial Literatures and Cultures (3)***
Literatures of Africa, Latin America, the Caribbean, and Southeast Asia in response to European colonization.

16:350:661 ***Seminar: Topics in Studies of Modernism and Postmodernism (3)***
Topics that explore the divide/connection between modernism and postmodernism.

16:350:662 ***Seminar: Topics in Irish Literature and Culture (3)***
Yeats, Synge, Joyce, and others in their cultural, social, and artistic contexts.

16:350:663,664 ***Seminar: Topics in Contemporary Literature and Culture (3,3)***
Explores a specific problem, project, or practice in contemporary literature and culture.

16:350:701,702 ***Research in Literature (BA,BA)***

Entomology 370 (SGS-ENTOM)

ENTOMOLOGY 370

Degree Programs Offered: M.S./Ph.D.

Please visit the Entomology website.

The keystone of the Graduate Program in Entomology in the School of Graduate Studies at Rutgers University is individual research projects performed by graduate students under close supervision by faculty in the Departments of Entomology; Ecology, Evolution, and Natural Resources; Biochemistry and Molecular Biology; Environmental and Occupational Health; and Plant Science, as well as several research centers including the Center for Turfgrass Science, leading to the M.S. and Ph.D. degrees.

This intensive research training program is complemented with formal course work. A Ph.D. course of study includes courses in Insect Structure and Function, Insect Taxonomy, Insect Collection, and Seminar in Entomology where the student is invited to present one seminar. Coursework also includes two additional entomology courses on subjects ranging from Insect Ecology to Toxicology of Pesticides.

For more information about our current graduate students please visit the Graduate Entomology Student Association (GESA) website. The Department of Entomology, housing the Graduate Program in Entomology is located in Thompson Hall, centrally on the Geoge H. Cook Campus, facilitating interactions with students and faculty in other SEBS departments and programs. The Department of Entomology includes a program in mosquito research, housed in the Headlee Laboratory Building, which currently emphasizes the ecology, behavior, and control of New Jersey mosquitoes in close collaborations with the 21 county mosquito control commissions in New Jersey.

Despite the input of faculty and advisors from a variety of life sciences departments and programs, the core of the Graduate Program in Entomology is focused in the faculty of the Department of Entomology including the entomology extension specialists and associated entomologists, who participate in all research and teaching activities, assuring students of ready access to professional interactions with all faculty members. Faculty and students actively maintain collaborations with other universities as well as internationally.

Recent graduates have successfully found employment in government, academic, and corporate institutions.

Faculty

Lena Brattsten, Ph.D., Illinois

Richard Cooper, Ph.D., Rutgers

Andrea Egizi, Ph.D., Rutgers

Dina Fonseca, Ph. D., Pennsylvania

Maria Gemmellaro, Ph.D., Rutgers

George Hamilton, Ph.D., Rutgers

Chloe Hawkings, Ph.D., Texas A&M

Albrecht Koppenhofer, Ph.D., Giessen (Germany)

Dana Luciano, Ph.D., Cornell

Peter Morin, Ph.D., Duke

Anne Nielsen, Ph.D., Rutgers

Dana Price, Ph.D., Rutgers

Mark Robson, Ph.D., Rutgers

Cesar Rodriguez-Saona, Ph.D., California (Riverside)

Jennifer Sun

Alvaro Toledo, Ph.D., Complutense de Madrid

Jefferey Tomberlin, Ph.D., Georgia

Isik Unlu, Ph.D., Louisiana

Changlu Wang, Ph.D., West Virginia

Jacob Wickham, Ph.D., SUNY

Gregory Williams, Ph.D., Delaware

Rachael Winfree, Ph. D., Princeton

Entomology 370 (SGS-ENTOM)

Degree Requirements

Degree Requirements

For more information, please see the Graduate Programs page on the School of Graduate Studies website.

Entomology 370 (SGS-ENTOM)

Course Descriptions

Course Descriptions

16:370:504 (Spring - Odd) ***Mosquito Biology (3)***
Lec. 2 hrs., lab. 3 hrs. The biology, physiology, and behavior of mosquitoes on a worldwide basis; emphasis on current techniques used in field and laboratory investigations.
Prerequisite: Permission of the instructor.

16:370:506 (Spring) ***Integrated Pest Management (3)***
A systems approach for measuring major ecological processes, such as development, mortality, and dispersal, presented as a means for evaluating pheromones, biocontrol, and cultural and pesticidal strategies in major crops.
Prerequisite: A background in entomology or other pest sciences and ecology. Recommended: Statistics Students who lack background in these areas must obtain permission from the instructor.

16:370:507 (Fall - Even) ***Biological Control of Insect Pests (3)***
The concepts and methods involved in the control of harmful insects and mites through the use of parasites, predators, and pathogens.
Prerequisite: General ecology.

16:370:508 (Spring) ***Urban Entomology (3)***
Lec. 3 hrs. Learn about common insects and other arthropods in urban environments. This course will introduce their biology, ecology, health risks, and management strategies. To learn more, click here.

16:370:509 (Fall - Even) ***Molecular Entomology (3)***
Lec. 3 hrs. This course will introduce students to concepts of molecular entomology and novel techniques routinely used in research to investigate the molecular mechanisms of insect systems.

16:370:511 (Fall & Spring) ***Principles of Systematics (3)***
Lec. 2 hrs., lab. 3 hrs. Taxonomy, species concepts, methods of contemporary systematic research, and zoogeographic analysis.

16:370:515 (Fall) ***Insect Morphology (3)***
Lec. 3 hrs., lab. 3 hrs. Required core course. Physiology and functional morphology, including response systems, sensory systems, energy utilization, transport and secretion, and renewal systems.
Prerequisite: 11:370:381 or equivalent.

16:370:516 (Fall - Odd) ***Insect Physiology (3)***
Lec. 3 hrs, Lab 3 hrs. Required core course for Entomology graduate students. Physiology and biochemistry of insect systems including maintenance, circulation, energy metabolism, homeostasis, sensory systems, communication systems, and defense systems.
Prerequisites: 11:370:381 Insect Biology or equivalent, 11:115:403, 404 General Biochemistry or equivalent, consent of instructor.

16:370:517 (Fall - Odd) ***Insect-Plant Biochemical Interactions (3)***
Biochemistry and physiology of interactions between herbivorous insects and their host plants, coevolutionary adaptations to toxic phytochemicals; pollination; descriptive chemistry of plant compounds & explanation of characteristics and biologically active features of the molecules, metabolic and target site physiological defenses.
Prerequisites: Consent of Instructor; Biology: 01:119:115&116, Chemistry: 01:160: 307 or 308, Biochemistry: 01:694:301 or equivalents.

16:370:519 (Fall) ***Insect Behavior (3)***
Insect behavior from a functional standpoint: stimuli and responses; adaptive significance and evolutionary context; underlying physiological mechanisms.
Prerequisite: Background in entomology and/or animal behavior.

16:370:522 (Spring - Even) ***Toxicology and Biochemistry of Insecticides (3)***
Lec. 2 hrs. Developing and using synthetic insecticides; environmental effects; evolution of insecticide resistance; role of insecticides in IPM programs; descriptive chemistry of insecticides; metabolism of insecticides; mode of action of insecticides.
Prerequisite: 11:119:101-102, one term of organic chemistry and consent of instructor.

16:370:524 (Fall) ***Insect Taxonomy (4)***
Lec. 2 hrs., lab. 6 hrs. Required core course. Insect systematics, identification, natural history, and evolution. Emphasizes North American insects at the family level.

16:370:525 (Spring - Even) ***Insect Ecology (3)***
This course uses the dominant form of life on earth, the insects, as a means for exploring basic concepts in ecology and evolution. Topics include insect diversity and biogeography; herbivores and herbivory; mutualism; natural enemies; biodiversity and ecosystem function; the history of human-insect interactions; and insect conservation. (Crosslisted with 16:215:599).
Prerequisite: General ecology.

16:370:601,602 ***Special Topics in Entomology (BA,BA)***
Each term, faulty members arrange a series of topics in specialized fields of entomology.

16:370:603,604 ***Seminar in Entomology (3)***
Required core course (1,1) Discussion and critique of presentations by guest speakers.

16:370:701,702 ***Research in Entomology (BA,BA)***

Environmental Engineering 366 (SGS-ENVENG)

ENVIRONMENTAL ENGINEERING 366

Degree Programs Offered: M.S., Ph.D.

Graduate Director: Professor Efthymios Nikolopoulos, Richard Weeks Hall, Busch Campus (848-445-9338)

Please visit the Environmental Engineering website.

The graduate program in Environmental Engineering offers a master of science (M.S.) degree and a doctor of philosophy (Ph.D.) degree in Environmental Engineering. Graduates will be able to address and solve engineering challenges and opportunities related to climate change, pollution, resource management, remediation and treatment systems, urbanization, planning, regulations, infrastructure, and energy issues. Students can specialize in Water Resources, Environmental Unit Processes and Remediation, Air Quality, or Sustainable Environmental Systems. Successful applicants are expected to have completed an undergraduate engineering degree from an ABET-accredited program or from a foreign institution with an equivalent program.

A.J. Both, Professor, SEBS; Ph.D., Cornell
Controlled environment agriculture; energy systems; systems analysis

Nicole Fahrenfeld, Professor, SoE; Ph.D., Virginia Tech
Water quality; antibiotic resistance; opportunistic pathogens; water treatment technologies; sewage epidemiology

Donna Fennell, Professor, SEBS; Ph.D., Cornell
Bioremediation; reductive dehalogenation; anaerobic digestion; bioaerosols

Qizhong (George) Guo, Professor, SoE; Ph.D., Minnesota
Hydraulics and hydrology; urban stormwater and flood management; green and mobile water infrastructure

Weilin Huang, Professor, SEBS; Ph.D., Michigan
Physicochemical processes; water treatment; soil remediation

Xiaomeng Jin, Assistant Professor, SEBS; Ph.D., Columbia
Atmospheric chemistry; air quality modeling; remote sensing

Uta Krogmann, Professor, SEBS; Ph.D., Technical University of Hamburg-Harburg (Germany)
Solid waste management and engineering; green buildings; Life Cycle Assessment

Yalin Li, Assistant Professor, SoE; Ph.D., Colorado School of Mines
Thermochemical and catalytic technologies for resource recovery; bioenergy and bioproducts; sustainable design and decision-making

Efthymios Nikolopoulos, Associate Professor, SoE; Ph.D., Connecticut
Modeling and monitoring of hydrometeorological and hydrological extremes such as floods and droughts

Christopher Obropta, Professor, SEBS; Ph.D., P.E., Stevens Institute of Technology
Stormwater management; green infrastructure

Elodie Passeport, Associate Professor, SEBS; Ph.D., AgroParisTech (France)
Emerging contaminants in the natural environment; environmental remediation; stable isotope analysis

Siddhartha Roy, Assistant Professor, SEBS; Ph.D., Virginia Tech
Water quality and treatment; public health; environmental epidemiology; international development

Roger Wang, Assistant Professor, SoE; Ph.D., Massachusetts Institute of Technology
Flooding; renewable energy; environmental big data and AI; cybersecurity of infrastructure systems; nano- and microfluids

Associate Members of the Graduate Faculty

Monica Mazurek, Associate Professor, SoE; Ph.D.
Air quality engineering; analytical methods for organic compounds in environmental and chemical engineering processes; organic geochemistry of earth materials

Robert Miskewitz, Research Professor, SEBS; Ph.D., Stevens Institute of Technology
Contaminated sediment management; surface water quality; sediment quality

Environmental Engineering 366 (SGS-ENVENG)

Degree Requirements

Degree Requirements

The M.S. program offers two plans: (a) 24 credits of coursework, 6 credits of research, and a comprehensive oral examination that includes the defense of a written thesis; or (b) 30 credits of coursework, submission of an approved critical essay, and a comprehensive oral examination.

The Ph.D. degree requires a minimum of 72 credits beyond the bachelor's degree, with 36 – 48 of those credits taken in coursework and 24 as research credits. The remaining credits may be in either courses or research. In addition, candidates must pass a qualifying exam and complete successfully and defend a research dissertation.

Core Courses:

All students are required to take three lecture courses from three of four options (one course per selected option):

1. Option 1:
   16:180:592 Sustainable Environmental Biotechnology (3), or
   16:375:510 Environmental Microbiology (3)
2. Option 2:
   16:375:517 Aquatic Chemistry (3), or
   16:375:540 Atmospheric Chemistry (3)
3. Option 3:
   16:375:523 Environmental Fate and Transport (3), or
   16:366:510 Air Quality Modeling (3)
4. Option 4:
   16:180:563 Advanced Hydrology (3), or
   16:180:569 Environmental Informatics (3), or
   16:180:586 Advanced Fluid Mechanics (3)

All students are required to take one (M.S.) or two (Ph.D.) seminar courses:
16:366:611/612 Seminar in Environmental Engineering

Electives:

The remaining courses may be selected from the following:

Water Resources

16:180:561 Advanced Water Supply and Sewerage (3)

16:180:563 Advanced Hydrology (3)

16:180:566 Sediment Transport (3)

16:180:567 Analysis of Receiving Water Quality (3)

16:180:574 Groundwater Engineering I (3)

16:180:576 Groundwater Engineering II (3)

16:180:586 Advanced Fluid Mechanics (3)

16:180:590 Coastal Engineering (3)

16:180:592 Green Infrastructure for Water Management (3)

16:366:509 Stream Restoration (3)

16:375:509 Groundwater Pollution (3)

16:375:541 Environmental Models (3)

Environmental Unit Processes and Remediation

16:180:562 Design of Water and Wastewater Treatment (3)

16:180:565 Biogeochemical Engineering (3)

16:180:593 QMRA & One Health Engineering (3)

16:375:504 Water and Wastewater Treatment (3)

16:375:506 Industrial Wastewater Treatment (3)

16:375:510 Environmental Microbiology (3)

16:375:522 Environmental Organic Chemistry (3)

16:375:527 Physiochemical Process Dynamics in Environmental Systems (3)

16:375:529 Biodegradation and Bioremediation (3)

16:375:531 Biological Waste Treatment (3)

Air Quality

16:107:544 Atmospheric Physics (3)

16:180:560 Air Quality Management (3)

16:375:524 Source Control of Atmospheric Pollution (3)

16:375:536 Air Sampling and Analysis Techniques (Lab) (3)

16:375:540 Atmospheric Chemistry (3)

Sustainable Environmental Systems

16:107: 545 Physical Climatology (3)

16:366:507 Environmental Systems Analysis (3)

16:366:508 Instruments in Bioenvironmental Engineering (4)

16:180:569 Environmental Informatics (3)

16:375:530 Hazardous Waste Management (3)

16:375:534 Environmental Sustainability: Life Cycle Assessment Tools (3)

16:375:565 Science and Engineering for the Public Good (3)

34:970:523 Environmental Law and Policy (3)

*Note: Graduate courses that are co-listed with undergraduate courses and have already been taken as undergraduate courses will not count toward the graduate degree.

Additional Electives

A maximum of 12 undergraduate credits (400-level) may be taken for graduate credit as electives. Ph.D. Students are encouraged to take elective courses not listed on the list above when these are considered desirable for their research or academic development and are approved.

Course Descriptions

Course Descriptions

16:366:507 *Environmental Systems Analysis (3)*
Philosophy of the systems approach. The modeling of systems. Quantitative methods in environmental systems analysis. Application of the systems approach and techniques of systems analysis to environmental problems.

16:366:508 *Instruments in Environmental Engineering (3)*
General measurement systems error analysis, transducer and signal conditioning. Digital data acquisition and control systems.

16:366:509 ***Stream Restoration (3)***
Scientific and engineering principles to assess stream health and develop engineering designs to restore stream health. Design of instream technology to reduce instream erosion, bringing the stream to a state of equilibrium while enhancing ecological habitat.

16:366:510 ***Air Quality Modeling (3)***
Models are critical research and policy tools to understand and predict air pollution. This course introduces students to the physics, chemistry and numerical methods underlying simulations of the source, chemical formation, transport and impacts of air pollution.

16:366:611, 612 ***Seminar in Environmental Engineering (1,1)***

16:366:697, 698 (F/S) ***Special Problems in Environmental Engineering (BA,BA)***
Directed studies of special problems involving applications of environmental engineering.

16:366:701, 702 (F/S) ***Research in Environmental Engineering (BA,BA)***
Students conduct thesis research in their areas of specialty under the direction of a faculty adviser.

Environmental Sciences 375 (SGS-ENVSCI)

ENVIRONMENTAL SCIENCES 375

Degree Programs Offered: M.S./Ph.D.

Please visit the Environmental Sciences website.

Graduates have been highly successful in a wide range of professional pursuits in both the public and private sector. This includes careers in academia, business, consulting, government, health care, industry, and the media. Our alumni work in classrooms, courtrooms, hospitals, industrial plants, laboratories, offices, and the outdoors. If you like science, and have an interest in the environment - we may be the program you are looking for!

The backgrounds of successful applicants vary greatly. All are expected to have earned an undergraduate degree in a science or engineering discipline with appropriate backgrounds in biology, chemistry, mathematics and/or physics. Otherwise highly qualified applicants who lack any of the above requirements may be allowed to correct this after admission. Selected applicants from non-scientific fields are sometimes admitted and have a good record of accomplishment.

Faculty

Myla Aronson, Ph.D., Rutgers

Emily Barrett, Ph.D., Harvard

Arend-Jan Both, Ph.D., Cornell

Anthony Broccoli, Ph.D., Rutgers

Brian Buckley, Ph.D., North Carolina

Joanna Burger, Ph.D., Minnesota

Chi Chen, Ph.D., Boston

Enrique Curchitser, Ph.D., Rutgers

Philip Demokritou, Ph.D., National Technical (Athens)

Nicole Fahrenfeld, Ph.D., Virginia Tech

Paul Falkowski, Ph.D., British Columbia

Donna Fennell, Ph.D., Cornell

Nancy Fiedler, Ph.D., Bowling Green

Panagiotis Georgopoulos, Ph.D., California Institute of Technology

Daniel Gimenez, Ph.D., Minnesota

Maxim Gorbunov, Ph.D., Moscow

Jason Grabosky, Ph.D., Cornell

Max Haggblom, Ph.D., Helsinki

Taewon Han, Ph.D., Texas A&M

Jun-Yan Hong, Ph.D., Medicine and Dentistry (New Jersey)

Weilin Huang, Ph.D., Michigan

Xiaomeng Jin, Ph.D., Columbia

Lee Kerkhof, Ph.D., California (San Diego)

Howard Kipen, M.D.,California (San Francisco)

Uta Krogmann, Ph.D., Technical (Hamburg)

Richard Lathrop, Jr., Ph.D., Wisconsin (Madison)

Robert Laumbach, M.D., Medicine and Dentistry (New Jersey) Robert Wood Johnson Medical School

Gediminas Mainelis, Ph.D, Cincinnati

Monica Mazurek, Ph.D., California (Los Angeles)

James Miller, Ph.D., Maryland

Robert Miskewitz, Ph.D., Stevens Institute of Technology

Christopher Obropta, Ph.D., Stevens Institute of Technology

Elodie Passeport, Ph.D., AgroParisTech

John Reinfelder, Ph.D., Stony Brook (SUNY)

Ying Fan-Reinfelder, Ph.D., Utah

Asa Rennermalm, Ph.D., Princeton

Zorimar Rivera-Núñez, Ph.D., Michigan

David Robinson, Ph.D., Columbia

Alan Robock, Ph.D., Massachusetts Institute of Technology

Mark Robson, Ph.D., Rutgers

Lisa Rodenburg, Ph.D., Johns Hopkins

Siddhartha Roy, Ph.D. Virginia Tech

Jeffra Schaefer, Ph.D., Rutgers

Robert Sherrell, Ph.D., Massachusetts Institute of Technology/Woods Hole

Elisabeth Sikes, Ph. D., Massachusetts Institute of Technology/Woods Hole

Alan Stern, Ph.D., Rutgers

Costantino Vetriani, Ph.D., Rome Tor Vergata

Mary Whelan, Ph.D., California (Berkeley)

Nathan Yee, Ph.D., Notre Dame

Lily Young, Ph.D., Harvard

Gerben Zylstra, Ph.D., Michigan

Environmental Sciences 375 (SGS-ENVSCI)

Degree Requirements

Degree Requirements

Degree Requirements

M.S. Plan A

24 course credits

6 research credits

Thesis

Public Oral Thesis Defense

Total: 30 credits

M.S. Plan B

Total of 30 course credits which may include up to 6 internships credits performed under

16:375:626 Advanced Special Problems by permission of the Graduate Program Director

Critical Essay

Comprehensive Oral Exam

Ph.D.

Minimum of 30 course credits

Minimum of 30 research or internship credits

Remaining credits (to a total of 72) may be course or research/internship

No more than 6 internship credits performed under 16:375:626 Advanced Special

Problems by permission from the Graduate Program Director

Successful completion of qualifying exam

Dissertation

Public Oral Dissertation Defense

Total: 72 credits

Note that the Exposure Science PhD may have additional requirements: see the end of this document

Curriculum

I. Core courses (15 credits):

Students must take the following courses (all of these courses are taught every year):

CHEMICAL PROCESSES (one course):

16:375:517 ***Applications of Aquatic Chemistry (3)***
Instructor: Reinfelder; Yee
Quantitative study of the thermodynamics and kinetics of the chemical and biological processes that control the composition of natural and engineered waters. Topics include: weak acid equilibria; the carbonate system, alkalinity and the pH of natural waters; trace metal speciation; dissolution-precipitation reactions and solubility; mineral dissolution and alkalinity; predominance diagrams; redox reactions and pe-pH diagrams; the solid-solution interface and adsorption; chemical kinetics and rate constants; biogeochemical processes. Graphical and numerical approaches, including the computer program Visual Minteq, are used to solve complex equilibrium problems of aquatic systems.

16:375:522 ***Environmental Organic Chemistry (3)***
Instructor: Rodenburg
This course uses concepts from organic chemistry and applies them to environmental systems. In the first half of the class, the physico-chemical properties of organic compounds will be discussed, with emphasis on Henry's Law and octanol-water partitioning. Student will learn how to use these physico-chemical properties to calculate the partitioning of organic chemicals in environmental systems. The second half of the course will focus on reactions of organic compounds that are important in the environment, including acid-base reactions, nucleophilic substitution reactions (especially hydrolysis), and redox reactions. The students will then use all the concepts learned in the course to predict the lifetimes of organic chemicals in the environment.

16:375:540 ***Atmospheric Chemistry (3)***
Instructor: Whelan
This course uses models to understand transport and transformation of components of the atmosphere, identify and explain atmospheric processes, Earth surface processes, and interactions with outer space that change the composition of the atmosphere. Students will learn to interpret atmospheric concentration data effectively and to understand if more info is needed for that purpose. At the end of the course, students are expected to appreciate the complexity of atmospheric chemical processes and how they affect life on Earth.

BIOLOGICAL PROCESSES:

16:375:510 ***Environmental Microbiology (3)***
Instructor: Young; Porter
This course is intended to provide fundamental knowledge about microorganisms in the natural and engineered environment and their role in the cycling of elements, both natural and anthropogenically introduced into the environment. We will focus on understanding their role in the biodegradation of contaminant chemicals and the application of processes that take advantage of the microbiological biodegradation processes.

PHYSICAL PROCESSES:

16:375:523 ***Environmental Fate and Transport (3)***
Instructor: Miskewitz
This course is a project/problem-oriented class that focuses on the fate and transport of chemicals in environmental systems. It emphasizes the physical, chemical, and biological processes that transport chemicals through the environment and the reactions that can transform it along the way. Students will learn to develop and use conceptual and numerical modeling approaches to chemical fate and transport.

RESEARCH METHODS:

16:375:501 ***Environmental Science Analysis (3)***
Instructor: Jin
This course will introduce data analysis techniques for applications in environmental sciences. Students will learn scientific programming in Python, statistical analysis, visualization, spatial analysis techniques that are commonly used to process and interpret environmental datasets. The course is designed to be accessible for graduate and upper-level undergraduate students in environmental sciences or other related disciplines.

In addition, all MS student must register for the following three courses. PhD student must take these three, plus take 16:375:612 every year that they are in the program up to a total of 4 credits for 16:375:612 (Exposure Science students may have additional requirements):

16:375:511 ***Journal Club in Environmental Science (1)***
Instructor: Varies
This course is designed to train students to read scientific literature critically.

16:375:612 ***Seminar in Environmental Sciences (1)***
Instructor: Varies
This course is designed to train students to develop and deliver scientific information as platform presentations suited for scientific meetings (10-15 minutes) and the public (30-minute seminar).

16:375:613 ***Seminar in Environmental Sciences (1)***
Instructor: Varies
This course serves as an introduction to our Graduate Program as well as a means to learn about research activities in the Graduate Program in Environmental Sciences.

II. Research or internship (6 credits for MS; 30 to 36 credits for PhD):

16:375:701/702 ***Research in Environmental Science (for Plan A) (3,3)***
Instructor: By arrangement
Research in physical, chemical and/or biological processes aimed at understanding/solving environmental problems affecting air, soil and water systems.

16:375:844 ***Research Internship (for Plan B) (3,3)***
Instructor: By arrangement
This course is intended to allow non-thesis MS students to count their relevant work experience as course credits. A maximum of 6 credits (3 credits/semester) are permitted.
Prerequisite: Permission of Instructor.

III. Electives:

MS: 9 credits of electives

PhD: 9 to 15 credits of electives

OPTIONS:

Environmental Science: option coordinator is the GPD

Exposure Science: option coordinators will be Mainelis

ENVIRONMENTAL SCIENCE OPTION

Within the Environmental Science Option students may take any of the courses listed below as their electives in coordination with their advisor. Other courses can be counted as electives with the approval of the Graduate Program Director.

16:375:503 ***Analytical Techniques in Environmental Chemistry (3)***
Theory and techniques of analytical procedures applicable to research in environmental science.
Prerequisite: 11:375:405 or Permission of Instructor.

16:375:504 ***Water and Wastewater Treatment (3)***
Instructor: Fennell
Chemical, physical, and biological factors affecting development of water supplies; water quality; municipal and industrial water treatment processes consisting of removal of particulate matter, softening, disinfection, corrosion control, iron and manganese removal, aeration, deaeration, and taste and odor removal.

16:375:506 ***Industrial Treatment (3)***
Industrial waters; industrial processes and sources of wastes; composition, characteristics, and effects; methods of treatment, disposal, and recovery.
Prerequisite: 16:375:501

16:375:512 ***Pollution Microbiology Lab (2)***
Instructor: Porter
Laboratory exercises paralleling 16:375:510.
Corequisite: 16:375:510.

16:375:517 ***Applications of Aquatic Chemistry (3)***
Instructor: Reinfelder; Yee
1. acquire the thermodynamic understanding and chemical intuition necessary to qualitatively and quantitatively describe environmental aquatic systems; 2. develop quantitative tools needed to understand and predict the chemical composition of complex aquatic systems. 3. communicate technical information effectively 4. develop an ability for the independent exploration of problems in aquatic chemistry (graduate)

16:375:522 ***Environmental Organic Chemistry (3)***
Instructor: Rodenburg
This course uses concepts from organic chemistry and applies them to environmental systems. In the first half of the class, the physico-chemical properties of organic compounds will be discussed, with emphasis on Henry's Law and octanol-water partitioning. Student will learn how to use these physico-chemical properties to calculate the partitioning of organic chemicals in environmental systems. The second half of the course will focus on reactions of organic compounds that are important in the environment, including acid-base reactions, nucleophilic substitution reactions (especially hydrolysis), and redox reactions. The students will then use all of the concepts learned in the course to predict the lifetimes of organic chemicals in the environment.

16:375:524 ***Source Control of Atmospheric Pollution (3)***
Instructor: Miskewitz
Principles, operation, performance, and application of methods and devices to control aerosol and gaseous emissions.

16:375:527 ***Process Dynamics in Environmental Systems (3)***
Instructor: Huang
This course covers fundamentals of process dynamics analysis and modeling in natural and engineered environmental systems. Major topics include chemical reaction thermodynamics and reaction kinetics, transport processes (advection and dispersion), molecular diffusion process at the particle scale, interphase mass transfer

(rate and equilibrium), and reactor design. Reactions in homogeneous and heterogeneous systems, air stripping, gas-liquid absorption, liquid-solid adsorption processes and particle-particle interactions for water and air quality control are also discussed.
Prerequisite: General chemistry and CALC2.

16:375:529 ***Biodegradation and Bioremediation (3)***
Instructor: Fennell
Basic principles of biodegradation science and bioremediation technology; microbiological, chemical, environmental, engineering, and technological aspects; fate and persistence of contaminants in complex environmental matrices; and microbial transformation and destruction of pollutants.
Prerequisite: Permission of Instructor.

16:375:530 ***Hazardous Waste Management (3)***
Overview of hazardous waste management. Case histories; legislation and regulations; treatment, disposal, and cleanup technologies; sampling and analysis methodologies; persistence and fate in the environment; emergency response procedures.

16:375:534 ***Environmental Sustainability (3)***
Instructor: Krogmann
Theory of analytical tools to assess environmental sustainability of goods and services including sustainability metrics; material flow analysis; SETAC-EPA life-cycle assessment (LCA), Economic Input-Output life-cycle assessment and benefit-cost analysis. Application of LCA to real-world problems.

16:375:536 ***Air Sampling and Analysis Techniques (3)***
Instructor: Mainelis
The course provides scientific basis to understand the reasons, principles and techniques of air sampling as they are applied in our study of environmental and health effects of air pollution as well as in regulatory compliance. The course provides hands-on experience of various aspects of air sampling. Preparation and quality of written reports is emphasized.
Prerequisite: 11:375:421 or equivalent.

16:375:540 ***Atmospheric Chemistry (3)***
Instructor: Whelan
Use models to understand transport and transformation of components of the atmosphere Identify and explain atmospheric processes, Earth surface processes, and interactions with outer space that change the composition of the atmosphere Interpret atmospheric concentration data effectively and understand if more info is needed Appreciate the complexity of atmospheric chemical processes and how they affect life on Earth.

16:375:541 ***Environmental Models (3)***
Instructor: Passeport
Development and applications of environmental models discussed in terms of their ability to simulate and predict the workings of environmental systems and to communicate information and trade-offs between economic and conservation goals.

16:375:554 ***Soil & Plant Relationships (3)***
Instructor: Gimenez
This course explores the principles governing water flow in the soil-plant-atmosphere continuum. Students will develop an understanding of the composition and properties of soils and plants and their interactions in relation to

environmental conditions (water and temperature). Scientific expertise and quantitative skills acquired during the class will be used to evaluate environmental and/or land management scenarios of societal interest. Students will demonstrate scientific literacy in the subject of the class by completing a final project in a course-related topic of their choice.

16:375:555 ***Soil Physics (3)***
Instructor: Gimenez
This class is a quantitative study of the physical properties of the soil system and their influence on the transport processes of mass and energy in soil. Students will learn the principles governing the movement of water and dissolved substances, adsorption of chemicals to solid particles, and their interactions in soils with volumes of water and air that vary both in time and space. Numerical simulation models will be used to solve more complex transport problems. The class includes an independent study in a course-related topic of the student's choice.

16:375:563 ***Geomicrobiology (3)***
Instructor: Yee
The interaction between micoorganisms and their geologic environments, with emphasis on microbial mediated chemical transformations, and the geochemical controls on microbial community structure. Topics include microbial biomineralization, microbial weathering of rocks, biofilm formation, geomicrobiological cycling of chemical elements, as well as recent advances in the enzymology and genetics of geologically relevant microorganisms.
Prerequisite: Permission of Instructor.

16:375:565 ***Science and Engineering for the Public Good (3)***
Instructor: Roy
This course explores community-centered science and engineering theory and practice, where students a) learn to ethically co-produce knowledge with impacted communities through fieldwork, research studies, and media engagement, b) analyze relevant local and global cases, including Flint Water Crisis, and c) engage directly with experts and communities for a final project addressing ongoing environmental issues.
Prerequisite: Calc I (16:640:135 or 151); Chemistry II (16:160:162).

16:375:573 ***Soil Ecology (3)***
Instructor: Schaefer
This course will introduce the field of soil microbiology and provide an understanding of how microbial processes in soil impact ecosystem sustainability and resilience.

16:375:625,626 ***Advanced Special Problems (credits by arrangement) (3)***
Instructor: Varies each semester.
Directed advanced studies in one of the areas of expertise of the Environmental Sciences faculty.
Prerequisites: Special permission from instructor needed.

16:107:545 ***Physical Climatology (3)***
Instructor: Broccoli
The climate system, surface-energy balance, past climate variations, climate-feedback mechanisms, climate modeling, causes of climate change, detection and attribution of anthropogenic climate change.
Prerequisite: A basic course in meteorology or climatology.

16:107:571 ***Climate Change Risk Analysis (3)***
Instructor: Kopp; Curchitser
Science, economics and policy of climate change risks. Extreme events, sea-level rise, agriculture, energy, health, labor, conflict, ecosystem services, tipping points. Decision- making under uncertainty and with long time horizons.
Prerequisite: Permission of instructor.

16:180:562 ***Design of Water and Wastewater Treatment (3)***
Instructor: Li
Functional study of plant loadings in relation to degree of treatment desired; layout, analysis, and design of treatment process units; mechanical and thermal energy requirements and equipment.

16:180:563 ***Advanced Hydrology (3)***
Instructor: Nikolopoulos
Hydrologic processes and modeling evapotranspiration, infiltration, precipitation and snow melt, overland flow subsurface and surface flow relations, channel and watershed routing hydraulic flood routing, numerical methods; watershed modeling; stochastic processes in hydrology; flood and drought risks, flood plain analysis and management.

16:180:566 ***Sediment Transport (3)***
Instructor: Guo
Erosion, transport, and deposition of sediment within a watershed and, especially, the fluvial network; flow resistance in natural channels; suspended load, bed load, and total load; noncohesive vs. cohesive sediment; sedimentation; sediment transport as an index of pollutant movement; numerical modeling and field monitoring.

16:180:574 ***Groundwater Engineering I (3)***
Porous media; fundamental equations of groundwater flow; confined flow; unconfined flow; hydraulics of wells; numerical methods; groundwater contamination; investigation; remediation and clean-up; monitoring computer applications.

16:180:576 ***Groundwater Engineering II (3)***
Solute and particle transport; dissolution of nonaqueous phase liquids; aqueous geochemistry; chemical property estimation; numerical modeling and analysis; analytical and stochastic techniques; computer applications.
Prerequisite: 16:180:574

16:378:502 ***Topics Seminar (3)***
Instructor: Varies
This course focuses on a particular topic with respect to human dimensions of environmental change. The seminar changes from year-to-year based on faculty availability and student interest. In recent years, 502 seminars have included: Interdisciplinary Research Design, Long-term Risk Assessment, Organizing for Change, Climate and Society and Environmental Sociology. Please consult the Graduate Director for current 502 seminar offerings.

16:460:551 ***Isotope Geochemistry (3)***
Instructor: Feigenson
Studies of stable and radiogenic isotopes in the earth's mantle and crust. The use of isotopes in age dating, source tracing, and geothermometry.
Prerequisite: 01:460:401 or equivalent.

16:682:501 ***Microbial Life (3)***
Instructor: Haggblom; Kerkhof
Molecular aspects of the origin of life, microbial evolution, properties and synthesis of the major biological polymers, transport phenomena, metabolic pathways and regulation, cellular control mechanisms, virology, pathogenic microbiology, and food and industrial microbiology.

16:682:572 ***Microbial Ecology and Diversity (3)***
Instructor: Vetriani
Qualitative and quantitative methods for the study of microbial communities. Ecological determinants. Characteristics of aquatic and terrestrial ecosystems. Biogeochemical cycles and energy flow. Microbial interactions and community structure.

16:712:514 ***ICP Spectroscopy Principles and Applications (3)***
Instructor: Bu; Rosenthal
The course covers the fundamental principles and applications of inductively coupled plasma-mass spectrometry and spectroscopy. The course will prepare the students with the necessary analytical knowledge for future work involving trace element and isotope analysis.
Prerequisite: 01:160:134, Intro to Chemistry.

16:712:540 ***Chemical Oceanography (3)***
Instructor: Santiago Ramos; Severmann
Chemical description of the ocean and its major chemical cycles; salinity and the elements of seawater; nutrients; the carbonate system; marine organic matter; radioisotopes; hydrothermal processes and ocean evolution.
Prerequisite: One year of college chemistry; 16:712:501.

16:712:560 ***History of Earth Systems (3)***
Instructor: Falkowski
This course integrates atmospheric, oceanographic, geological and biological concepts with a historical perspective to introduce the student to the major processes that have shaped Earth's environment. The course will examine climatic processes on geological time scales, the evolution of organisms, the cycling of elements, and the feedbacks between these processes.
Prerequisite: Introductory chemistry, biology, and physics or by permission.

16:712:561 ***Professional Science Writing & Presentation (3)***
Instructor: Severmann; Bhattacharya
Presenting your science at international meetings. Effective design of data and conceptual figures, and tables that are fit for different purposes. Writing thesis or fellowship proposals and manuscripts. Understanding the peer review process. Job applications. Science communication to the public.

16:712:615 ***Geophysical Data Analysis* (3)***
Instructors: Chant; Wilkin
Quantitative analysis and display of spatial and time-series data; filters; spectral analysis; covariance; coherence; confidence intervals; goodness-of-fit; optimal interpolation of unequally spaced data; empirical orthogonal functions; and harmonic analysis. Practical exercises using Matlab to analyze data from marine and environmental instruments, satellites, and climatologies. Communicating quantitative results to an audience.
Prerequisites: Calculus, differential equations, linear algebra.

16:960:590 ***Design of Experiments (3)***
Fundamental principles of experimental design; completely randomized variance component designs; randomized blocks; Latin squares; incomplete blocks; partially hierarchic mixed-model experiments; factorial experiments; fractional factorials; and response surface exploration.
Prerequisite: 01:960:484 or 401 or equivalent.

16:960:668 ***Bayesian Data Analysis (3)***
Bayesian inference, manipulation of joint probability distributions, probability distributions and conditional independence concepts, Monte Carlo methods, static and dynamic methods, predictive approach to Bayesian analysis, exchangeability and the de Finetti theorem, Bayesian analysis in one-layer problems, including prior, posterior, and predictive distributions, Monte Carlo methods in advanced modeling and inference problems. Calculations are done in the Splus/R computer language and BUGS, a software package for Bayesian data analysis.
Prerequisite: 16:960:593

34:970:523 ***Environmental Law & Policy (3)***
Instructor: Varies
Legal principles involved in protecting the environment, including air, water, and noise pollution; control of population growth and distribution; and ecological aspects of land-use control.

EXPOSURE SCIENCE OPTION

If you have any questions, please contact Dr. Gediminas Maineilis at mainelis@envsci.rutgers.edu.

The following three courses are required:

16:115:556 ***Ethical Scientific Conduct (1)***
IDST-5000
Instructor: Alder
Introduction to ethical issues of scientific investigation, including intellectual property, plagiarism, conflict of interest, human and animal subjects, and record keeping. Intended for Ph.D. candidates in the biomedical sciences.

16:375:511 ***Journal Club in Exposure Science (1)*** **(fulfills Journal Club core requirement)**
Instructor: Varies
This course is designed to train students to read scientific literature critically.

75:832:621 ***Environmental Exposure Measurements & Assessment (3)***
ENOH 0695-030
Instructor: Georgopoulos
This course provides students basic scientific knowledge of sources of exposure, exposure measurement and assessment, and prevention and mitigation of hazardous environmental exposure. Topics include basic concepts of exposure science, the specific types and sources of environmental agents that people are exposed to, specific exposure measurement, assessment and modeling methods, and emerging environmental exposure issues. Skills will also be developed for designing exposure studies applicable to epidemiological investigations and health risk assessment.
Prerequisite: General Statistics

Candidates also must take at least 21 credits from the following courses. Substitutions may be allowed if approved in writing by the major advisor and option coordinator (Dr. Gediminas Maineilis).

16:375:508 ***Interpretational Epidemiology (3)***
Epidemiologic study design and analysis as it relates to reading and interpretation of the published literature on environmental toxicants and adverse effects of pharmacologic agents. Topics include cancer, respiratory, cardiovascular, reproductive, and neurologic outcomes.
Prerequisite: Matriculation in exposure assessment joint track or permission of the instructor.
****Currently, this course is not active.***

16:375:541 ***Environmental Models (3)***
Instructor: Passeport
Development and applications of environmental models discussed in terms of their ability to simulate and predict the workings of environmental systems and to communicate information and trade-offs between economic and conservation goals.

16:960:467 ***Applied Multivariant Analyses (3)***
Instructor: Ramaswamy
Introduction to the methodology of multivariate analysis. Multiple linear regression, discriminant analysis, profile analysis, canonical correlation, principal components, and factor analysis.
Prerequisite: 01:960:212 OR 384 OR 401 OR 484 OR 380.

16:960:590 ***Design of Experiments (3)***
Fundamental principles of experimental design; completely randomized variance component designs; randomized blocks; Latin squares; incomplete blocks; partially hierarchic mixed-model experiments; factorial experiments; fractional factorials; and response surface exploration.
Prerequisite: 01:960:484 or 401 or equivalent.

16:970:527 ***Adv. Multivariant Methods: Environmental & Health Issues (3)***
Examines the application of factor, principal components, discriminant, and regression methods to environmental, health, land use, and social problems.
Prerequisite: Permission of instructor.

75:832:502 ***Principles and Methods of Epidemiology (3)***
PHCO-0502
This course introduces students to the study of disease and ill health through their patterns of occurrence in human populations. The approaches of epidemiology in estimating the burden of disease, in making inferences about cause of disease, and in evaluating primary, secondary, and tertiary prevention strategies are presented.

75:832:622 ***Environmental Risk Assessment (3)***
ENOH-0656-001
Instructor: Laumbach
Concepts, language, and methods of risk assessment; role of risk assessment in individual and social decision making.
Prerequisite: PHCO-0503-001.

Course Descriptions

Course Descriptions

16:375:517 ***Applications of Aquatic Chemistry (3)***
Instructor: Reinfelder; Yee
Quantitative study of the thermodynamics and kinetics of the chemical and biological processes that control the composition of natural and engineered waters. Topics include: weak acid equilibria; the carbonate system, alkalinity and the pH of natural waters; trace metal speciation; dissolution-precipitation reactions and solubility; mineral dissolution and alkalinity; predominance diagrams; redox reactions and pe-pH diagrams; the solid-solution interface and adsorption; chemical kinetics and rate constants; biogeochemical processes. Graphical and numerical approaches, including the computer program Visual Minteq, are used to solve complex equilibrium problems of aquatic systems.

16:375:522 ***Environmental Organic Chemistry (3)***
Instructor: Rodenburg
This course uses concepts from organic chemistry and applies them to environmental systems. In the first half of the class, the physico-chemical properties of organic compounds will be discussed, with emphasis on Henry's Law and octanol-water partitioning. Student will learn how to use these physico-chemical properties to calculate the partitioning of organic chemicals in environmental systems. The second half of the course will focus on reactions of organic compounds that are important in the environment, including acid-base reactions, nucleophilic substitution reactions (especially hydrolysis), and redox reactions. The students will then use all the concepts learned in the course to predict the lifetimes of organic chemicals in the environment.

16:375:540 ***Atmospheric Chemistry (3)***
Instructor: Whelan
This course uses models to understand transport and transformation of components of the atmosphere, identify and explain atmospheric processes, Earth surface processes, and interactions with outer space that change the composition of the atmosphere. Students will learn to interpret atmospheric concentration data effectively and to understand if more info is needed for that purpose. At the end of the course, students are expected to appreciate the complexity of atmospheric chemical processes and how they affect life on Earth.

16:375:510 ***Environmental Microbiology (3)***
Instructor: Young; Porter
This course is intended to provide fundamental knowledge about microorganisms in the natural and engineered environment and their role in the cycling of elements, both natural and anthropogenically introduced into the environment. We will focus on understanding their role in the biodegradation of contaminant chemicals and the application of processes that take advantage of the microbiological biodegradation processes.

16:375:523 ***Environmental Fate and Transport (3)***
Instructor: Miskewitz
This course is a project/problem-oriented class that focuses on the fate and transport of chemicals in environmental systems. It emphasizes the physical, chemical, and biological processes that transport chemicals through the environment and the reactions that can transform it along the way. Students will learn to develop and use conceptual and numerical modeling approaches to chemical fate and transport.

16:375:501 ***Environmental Science Analysis (3)***
Instructor: Jin
This course will introduce data analysis techniques for applications in environmental sciences. Students will learn scientific programming in Python, statistical analysis, visualization, spatial analysis techniques that are commonly used to process and interpret environmental datasets. The course is designed to be accessible for graduate and upper-level undergraduate students in environmental sciences or other related disciplines.

16:375:511 ***Journal Club in Environmental Science (1)***
Instructor: Varies
This course is designed to train students to read scientific literature critically.

16:375:612 ***Seminar in Environmental Sciences (1)***
Instructor: Varies
This course is designed to train students to develop and deliver scientific information as platform presentations suited for scientific meetings (10-15 minutes) and the public (30-minute seminar).

16:375:613 ***Seminar in Environmental Sciences (1)***
Instructor: Varies
This course serves as an introduction to our Graduate Program as well as a means to learn about research activities in the Graduate Program in Environmental Sciences.

16:375:701/702 ***Research in Environmental Science (for Plan A) (3,3)***
Instructor: By arrangement
Research in physical, chemical and/or biological processes aimed at understanding/solving environmental problems affecting air, soil and water systems.

16:375:844 ***Research Internship (for Plan B) (3,3)***
Instructor: By arrangement
This course is intended to allow non-thesis MS students to count their relevant work experience as course credits. A maximum of 6 credits (3 credits/semester) are permitted.
Prerequisite: Permission of Instructor.

16:375:503 ***Analytical Techniques in Environmental Chemistry (3)***
Theory and techniques of analytical procedures applicable to research in environmental science.
Prerequisite: 11:375:405 or Permission of Instructor.

16:375:504 ***Water and Wastewater Treatment (3)***
Instructor: Fennell
Chemical, physical, and biological factors affecting development of water supplies; water quality; municipal and industrial water treatment processes consisting of removal of particulate matter, softening, disinfection, corrosion control, iron and manganese removal, aeration, deaeration, and taste and odor removal.

16:375:506 ***Industrial Treatment (3)***
Industrial waters; industrial processes and sources of wastes; composition, characteristics, and effects; methods of treatment, disposal, and recovery.
Prerequisite: 16:375:501

16:375:512 ***Pollution Microbiology Lab (2)***
Instructor: Porter
Laboratory exercises paralleling 16:375:510.
Corequisite: 16:375:510.

16:375:517 ***Applications of Aquatic Chemistry (3)***
Instructor: Reinfelder; Yee
1. acquire the thermodynamic understanding and chemical intuition necessary to qualitatively and quantitatively describe environmental aquatic systems; 2. develop quantitative tools needed to understand and predict the chemical composition of complex aquatic systems. 3. communicate technical information effectively 4. develop an ability for the independent exploration of problems in aquatic chemistry (graduate)

16:375:522 ***Environmental Organic Chemistry (3)***
Instructor: Rodenburg
This course uses concepts from organic chemistry and applies them to environmental systems. In the first half of the class, the physico-chemical properties of organic compounds will be discussed, with emphasis on Henry's Law and octanol-water partitioning. Student will learn how to use these physico-chemical properties to calculate the partitioning of organic chemicals in environmental systems. The second half of the course will focus on reactions of organic compounds that are important in the environment, including acid-base reactions, nucleophilic substitution reactions (especially hydrolysis), and redox reactions. The students will then use all of the concepts learned in the course to predict the lifetimes of organic chemicals in the environment.

16:375:524 ***Source Control of Atmospheric Pollution (3)***
Instructor: Miskewitz
Principles, operation, performance, and application of methods and devices to control aerosol and gaseous emissions.

16:375:527 ***Process Dynamics in Environmental Systems (3)***
Instructor: Huang
This course covers fundamentals of process dynamics analysis and modeling in natural and engineered environmental systems. Major topics include chemical reaction thermodynamics and reaction kinetics, transport processes (advection and dispersion), molecular diffusion process at the particle scale, interphase mass transfer (rate and equilibrium), and reactor design. Reactions in homogeneous and heterogeneous systems, air stripping, gas-liquid absorption, liquid-solid adsorption processes and particle-particle interactions for water and air quality control are also discussed.
Prerequisite: General chemistry and CALC2.

16:375:529 ***Biodegradation and Bioremediation (3)***
Instructor: Fennell
Basic principles of biodegradation science and bioremediation technology; microbiological, chemical, environmental, engineering, and technological aspects; fate and persistence of contaminants in complex environmental matrices; and microbial transformation and destruction of pollutants.
Prerequisite: Permission of Instructor.

16:375:530 ***Hazardous Waste Management (3)***
Overview of hazardous waste management. Case histories; legislation and regulations; treatment, disposal, and cleanup technologies; sampling and analysis methodologies; persistence and fate in the environment; emergency response procedures.

16:375:534 ***Environmental Sustainability (3)***
Instructor: Krogmann
Theory of analytical tools to assess environmental sustainability of goods and services including sustainability metrics; material flow analysis; SETAC-EPA life-cycle assessment (LCA), Economic Input-Output life-cycle assessment and benefit-cost analysis. Application of LCA to real-world problems.

16:375:536 ***Air Sampling and Analysis Techniques (3)***
Instructor: Mainelis
The course provides scientific basis to understand the reasons, principles and techniques of air sampling as they are applied in our study of environmental and health effects of air pollution as well as in regulatory compliance. The course provides hands-on experience of various aspects of air sampling. Preparation and quality of written reports is emphasized.
Prerequisite: 11:375:421 or equivalent.

16:375:540 ***Atmospheric Chemistry (3)***
Instructor: Whelan
Use models to understand transport and transformation of components of the atmosphere Identify and explain atmospheric processes, Earth surface processes, and interactions with outer space that change the composition of the atmosphere Interpret atmospheric concentration data effectively and understand if more info is needed Appreciate the complexity of atmospheric chemical processes and how they affect life on Earth.

16:375:541 ***Environmental Models (3)***
Instructor: Passeport
Development and applications of environmental models discussed in terms of their ability to simulate and predict the workings of environmental systems and to communicate information and trade-offs between economic and conservation goals.

16:375:554 ***Soil & Plant Relationships (3)***
Instructor: Gimenez
This course explores the principles governing water flow in the soil-plant-atmosphere continuum. Students will develop an understanding of the composition and properties of soils and plants and their interactions in relation to environmental conditions (water and temperature). Scientific expertise and quantitative skills acquired during the class will be used to evaluate environmental and/or land management scenarios of societal interest. Students will demonstrate scientific literacy in the subject of the class by completing a final project in a course-related topic of their choice.

16:375:555 ***Soil Physics (3)***
Instructor: Gimenez
This class is a quantitative study of the physical properties of the soil system and their influence on the transport processes of mass and energy in soil. Students will learn the principles governing the movement of water and dissolved substances, adsorption of chemicals to solid particles, and their interactions in soils with volumes of water and air that vary both in time and space. Numerical simulation models will be used to solve more complex transport problems. The class includes an independent study in a course-related topic of the student's choice.

16:375:563 ***Geomicrobiology (3)***
Instructor: Yee
The interaction between micoorganisms and their geologic environments, with emphasis on microbial mediated chemical transformations, and the geochemical controls on microbial community structure. Topics include microbial biomineralization, microbial weathering of rocks, biofilm formation, geomicrobiological cycling of chemical elements, as well as recent advances in the enzymology and genetics of geologically relevant microorganisms.
Prerequisite: Permission of Instructor.

16:375:565 ***Science and Engineering for the Public Good (3)***
Instructor: Roy
This course explores community-centered science and engineering theory and practice, where students a) learn to ethically co-produce knowledge with impacted communities through fieldwork, research studies, and media engagement, b) analyze relevant local and global cases, including Flint Water Crisis, and c) engage directly with experts and communities for a final project addressing ongoing environmental issues.
Prerequisite: Calc I (16:640:135 or 151); Chemistry II (16:160:162).

16:375:573 ***Soil Ecology (3)***
Instructor: Schaefer
This course will introduce the field of soil microbiology and provide an understanding of how microbial processes in soil impact ecosystem sustainability and resilience.

16:375:625,626 ***Advanced Special Problems (credits by arrangement) (3)***
Instructor: Varies each semester.
Directed advanced studies in one of the areas of expertise of the Environmental Sciences faculty.
Prerequisites: Special permission from instructor needed.

16:107:545 ***Physical Climatology (3)***
Instructor: Broccoli
The climate system, surface-energy balance, past climate variations, climate-feedback mechanisms, climate modeling, causes of climate change, detection and attribution of anthropogenic climate change.
Prerequisite: A basic course in meteorology or climatology.

16:107:571 ***Climate Change Risk Analysis (3)***
Instructor: Kopp; Curchitser
Science, economics and policy of climate change risks. Extreme events, sea-level rise, agriculture, energy, health, labor, conflict, ecosystem services, tipping points. Decision- making under uncertainty and with long time horizons.
Prerequisite: Permission of instructor.

16:180:562 ***Design of Water and Wastewater Treatment (3)***
Instructor: Li
Functional study of plant loadings in relation to degree of treatment desired; layout, analysis, and design of treatment process units; mechanical and thermal energy requirements and equipment.

16:180:563 ***Advanced Hydrology (3)***
Instructor: Nikolopoulos
Hydrologic processes and modeling evapotranspiration, infiltration, precipitation and snow melt, overland flow

subsurface and surface flow relations, channel and watershed routing hydraulic flood routing, numerical methods; watershed modeling; stochastic processes in hydrology; flood and drought risks, flood plain analysis and management.

16:180:566 ***Sediment Transport (3)***
Instructor: Guo
Erosion, transport, and deposition of sediment within a watershed and, especially, the fluvial network; flow resistance in natural channels; suspended load, bed load, and total load; noncohesive vs. cohesive sediment; sedimentation; sediment transport as an index of pollutant movement; numerical modeling and field monitoring.

16:180:574 ***Groundwater Engineering I (3)***
Porous media; fundamental equations of groundwater flow; confined flow; unconfined flow; hydraulics of wells; numerical methods; groundwater contamination; investigation; remediation and clean-up; monitoring computer applications.

16:180:576 ***Groundwater Engineering II (3)***
Solute and particle transport; dissolution of nonaqueous phase liquids; aqueous geochemistry; chemical property estimation; numerical modeling and analysis; analytical and stochastic techniques; computer applications.
Prerequisite: 16:180:574

16:378:502 ***Topics Seminar (3)***
Instructor: Varies
This course focuses on a particular topic with respect to human dimensions of environmental change. The seminar changes from year-to-year based on faculty availability and student interest. In recent years, 502 seminars have included: Interdisciplinary Research Design, Long-term Risk Assessment, Organizing for Change, Climate and Society and Environmental Sociology. Please consult the Graduate Director for current 502 seminar offerings.

16:460:551 ***Isotope Geochemistry (3)***
Instructor: Feigenson
Studies of stable and radiogenic isotopes in the earth's mantle and crust. The use of isotopes in age dating, source tracing, and geothermometry.
Prerequisite: 01:460:401 or equivalent.

16:682:501 ***Microbial Life (3)***
Instructor: Haggblom; Kerkhof
Molecular aspects of the origin of life, microbial evolution, properties and synthesis of the major biological polymers, transport phenomena, metabolic pathways and regulation, cellular control mechanisms, virology, pathogenic microbiology, and food and industrial microbiology.

16:682:572 ***Microbial Ecology and Diversity (3)***
Instructor: Vetriani
Qualitative and quantitative methods for the study of microbial communities. Ecological determinants. Characteristics of aquatic and terrestrial ecosystems. Biogeochemical cycles and energy flow. Microbial interactions and community structure.

16:712:514 ***ICP Spectroscopy Principles and Applications (3)***
Instructor: Bu; Rosenthal
The course covers the fundamental principles and applications of inductively coupled plasma-mass spectrometry and spectroscopy. The course will prepare the students with the necessary analytical knowledge for future work involving trace element and isotope analysis.
Prerequisite: 01:160:134, Intro to Chemistry.

16:712:540 ***Chemical Oceanography (3)***
Instructor: Santiago Ramos; Severmann
Chemical description of the ocean and its major chemical cycles; salinity and the elements of seawater; nutrients; the carbonate system; marine organic matter; radioisotopes; hydrothermal processes and ocean evolution.
Prerequisite: One year of college chemistry; 16:712:501.

16:712:560 ***History of Earth Systems (3)***
Instructor: Falkowski
This course integrates atmospheric, oceanographic, geological and biological concepts with a historical perspective to introduce the student to the major processes that have shaped Earth's environment. The course will examine climatic processes on geological time scales, the evolution of organisms, the cycling of elements, and the feedbacks between these processes.
Prerequisite: Introductory chemistry, biology, and physics or by permission.

16:712:561 ***Professional Science Writing & Presentation (3)***
Instructor: Severmann; Bhattacharya
Presenting your science at international meetings. Effective design of data and conceptual figures, and tables that are fit for different purposes. Writing thesis or fellowship proposals and manuscripts. Understanding the peer review process. Job applications. Science communication to the public.

16:712:615 ***Geophysical Data Analysis* (3)***
Instructors: Chant; Wilkin
Quantitative analysis and display of spatial and time-series data; filters; spectral analysis; covariance; coherence; confidence intervals; goodness-of-fit; optimal interpolation of unequally spaced data; empirical orthogonal functions; and harmonic analysis. Practical exercises using Matlab to analyze data from marine and environmental instruments, satellites, and climatologies. Communicating quantitative results to an audience.
Prerequisites: Calculus, differential equations, linear algebra.

16:960:590 ***Design of Experiments (3)***
Fundamental principles of experimental design; completely randomized variance component designs; randomized blocks; Latin squares; incomplete blocks; partially hierarchic mixed-model experiments; factorial experiments; fractional factorials; and response surface exploration.
Prerequisite: 01:960:484 or 401 or equivalent.

16:960:668 ***Bayesian Data Analysis (3)***
Bayesian inference, manipulation of joint probability distributions, probability distributions and conditional independence concepts, Monte Carlo methods, static and dynamic methods, predictive approach to Bayesian analysis, exchangeability and the de Finetti theorem, Bayesian analysis in one-layer problems, including prior, posterior, and predictive distributions,

Monte Carlo methods in advanced modeling and inference problems. Calculations are done in the Splus/R computer language and BUGS, a software package for Bayesian data analysis.
Prerequisite: 16:960:593

34:970:523 ***Environmental Law & Policy (3)***
Instructor: Varies
Legal principles involved in protecting the environment, including air, water, and noise pollution; control of population growth and distribution; and ecological aspects of land-use control.

16:115:556 ***Ethical Scientific Conduct (1)***
IDST-5000
Instructor: Alder
Introduction to ethical issues of scientific investigation, including intellectual property, plagiarism, conflict of interest, human and animal subjects, and record keeping. Intended for Ph.D. candidates in the biomedical sciences.

16:375:511 ***Journal Club in Exposure Science (1)*** **(fulfills Journal Club core requirement)**
Instructor: Varies
This course is designed to train students to read scientific literature critically.

75:832:621 ***Environmental Exposure Measurements & Assessment (3)***
ENOH 0695-030
Instructor: Georgopoulos
This course provides students basic scientific knowledge of sources of exposure, exposure measurement and assessment, and prevention and mitigation of hazardous environmental exposure. Topics include basic concepts of exposure science, the specific types and sources of environmental agents that people are exposed to, specific exposure measurement, assessment and modeling methods, and emerging environmental exposure issues. Skills will also be developed for designing exposure studies applicable to epidemiological investigations and health risk assessment.
Prerequisite: General Statistics

16:375:508 ***Interpretational Epidemiology (3)***
Epidemiologic study design and analysis as it relates to reading and interpretation of the published literature on environmental toxicants and adverse effects of pharmacologic agents. Topics include cancer, respiratory, cardiovascular, reproductive, and neurologic outcomes.
Prerequisite: Matriculation in exposure assessment joint track or permission of the instructor.
****Currently, this course is not active.***

16:375:541 ***Environmental Models (3)***
Instructor: Passeport
Development and applications of environmental models discussed in terms of their ability to simulate and predict the workings of environmental systems and to communicate information and trade-offs between economic and conservation goals.

16:960:467 ***Applied Multivariant Analyses (3)***
Instructor: Ramaswamy
Introduction to the methodology of multivariate analysis. Multiple linear regression, discriminant analysis, profile analysis, canonical correlation, principal components, and factor analysis.
Prerequisite: 01:960:212 OR 384 OR 401 OR 484 OR 380.

16:960:590 ***Design of Experiments (3)***
Fundamental principles of experimental design; completely randomized variance component designs; randomized blocks; Latin squares; incomplete blocks; partially hierarchic mixed-model experiments; factorial experiments; fractional factorials; and response surface exploration.
Prerequisite: 01:960:484 or 401 or equivalent.

16:970:527 ***Adv. Multivariant Methods: Environmental & Health Issues (3)***
Examines the application of factor, principal components, discriminant, and regression methods to environmental, health, land use, and social problems.
Prerequisite: Permission of instructor.

75:832:502 ***Principles and Methods of Epidemiology (3)***
PHCO-0502
This course introduces students to the study of disease and ill health through their patterns of occurrence in human populations. The approaches of epidemiology in estimating the burden of disease, in making inferences about cause of disease, and in evaluating primary, secondary, and tertiary prevention strategies are presented.

75:832:622 ***Environmental Risk Assessment (3)***
ENOH-0656-001
Instructor: Laumbach
Concepts, language, and methods of risk assessment; role of risk assessment in individual and social decision making.
Prerequisite: PHCO-0503-001.

Exposure Science 121 (SGS-EXPSCI)

EXPOSURE SCIENCE 121

Degree Programs Offered: Ph.D.

Visit the Exposure Science website.

The Exposure Science Program trains students to measure and model human exposures to,

i.e. contact with, agents in the environment that might lead to health concerns.

Program Description

Our Exposure Science Ph.D. students are immersed in the study of human contact with chemical, physical, or biological agents. Students will investigate contacts occurring in their environments to advance the knowledge of the mechanisms and dynamics of events either causing or preventing adverse health outcomes.

Exposure Science 121 (SGS-EXPSCI)

Degree Requirements

Degree Requirements

For more information, please see the Graduate Programs page on the School of Graduate Studies website.

Exposure Science 121 (SGS-EXPSCI)

Course Descriptions

Course Descriptions

For more information, please see the Graduate Programs page on the School of Graduate Studies website.

Exposure Science 121 (SGS-EXPSCI)

Admission Deadlines

Admission Deadlines

For best consideration apply by these dates

APPLICATION TYPE	US APPLICANTS	NON-US APPLICANTS	MERIT-BASED AID
Ph.D.	January 10	January 10	January 10

Exposure Science 121 (SGS-EXPSCI)

Exposure Science Option

Exposure Science Option

The following three courses are required:

1. 32:832:595 Environmental Exposure Measurements & Assessment (3)
2. 16:115:556 (IDST-5000) Ethical Scientific Conduct (1)
3. 16:375:511 Journal Club in Exposure Science (1) (fulfills Journal Club core requirement)

Candidates also must take at least 21 credits from the following courses, with at least one course being taken from each area. Substitutions may be allowed if approved in writing by the major advisor and option coordinator.

Epidemiology

- 16:375:508 Interpretational Epidemiology (3)
- 16:832:520 Principles of Epidemiology (3) Environmental Science
- 16:375:541 Environmental Models (3)
- 32:832:589 Advanced Environmental Hygiene Measurements (4) Health
- 32:832:541 Toxicology (3)
- 32:832:586 Environmental Risk Assessment (3) Statistics

- 16:960:467 Applied Multivariant Analyses (3)
- 16:960:590 Design of Experiments (3)
- 16:970:527 Adv. Multivariant Methods: Environmtl & Health Issues (3)

Food and Business Economics 395 (SGS-FBE)

FOOD AND BUSINESS ECONOMICS 395

Degree Programs Offered: M.S.

This M.S. degree program is a 30-credit program for those who opt for the thesis option and a 33-credit program for those who opt for the non-thesis or Plan B option.

The objective of this graduate program aligns with the Department's mission, which is to foster economic growth, food security, and sustainability through cutting-edge research, student-oriented teaching, and meaningful community engagement. The program's teaching and research focus leverages data analytics, innovative solutions, and advocacy to empower all populations and address pressing societal challenges. More specifically, the objective of this graduate program is to develop the ability of students to apply economic theory and high levels of quantitative and analytical skills to significant problems facing society in the areas of: sustainability in the agri-food sectors, economics of bio-pharma sectors, production and marketing of agricultural and food products, land/environmental policy and management, and international development. To achieve the goals inherent in the overarching mission of the Department, students in this graduate program will (i) develop an advanced understanding of microeconomic theory, (ii) demonstrate the ability to apply quantitative methods to economic theory and practice, (iii) develop an in-depth understanding of an area within economics, and (iv) utilize both oral and written communication skills to effectively communicate such understanding in a variety of formats.

Because of the program's problem-solving focus, policy analysis is emphasized. Students are provided with a strong background in economic theory and quantitative methods of analysis, and with the ability to use this knowledge in solving problems. With this training, students are prepared for careers in industry, government, and in the non-profit sector as data and policy analysts and executive decision makers. With proper planning by the student, the program can also provide the necessary preparation for entry into Ph.D. programs in Agricultural Economics, Economics, or a related field.

In addition to offering a 5-year B.S./M.S. program, the program also provides an opportunity for a dual master's degree arrangement with the Graduate Program in Urban Planning and Policy Development (students interested in this dual degree arrangement must also separately apply for graduate admission to the Urban Planning and Policy Development Program).

Faculty

Sanjib Bhuyan, Ph.D., Connecticut

Paul Gottlieb, Ph.D., Princeton

Ramu Govindasamy, Ph.D., Iowa

Serpil Guran, Ph.D., Leed

Yanhong Jin, Ph.D., California (Berkeley)

Seowoo Lee, Ph.D., Michigan

James Oehmke, Ph.D., Chicago

Carl Pray, Ph.D., Pennsylvania

Brian Schilling, Ph.D., Rutgers

Edmund Tavernier, Ph.D., Minnesota

Isaac Vellangany, Ph.D., Baroda (India)

Elise Qilu Yu, Ph.D., Cornell

Degree Requirements

Degree Requirements

A typical program of study includes:

Research Methods in Applied Econ (16:395:503) 3 credits (fall)

Microeconomic Theory w/Applications (16:395:505) 3 credits (fall) (Note 1)

Econometrics (01:220:322) or (11:373:425) 3 credits (fall) (Note 2)

Applied Econometrics (16:395:506) 3 credits (spring)

Electives (see additional information below) 12 or 18 credits

TOTAL CREDITS OF REQUIRED TO GRADUATE: 24 course credits plus 6 thesis credits, or (ii) 30 course credits and 3 independent study credits

Electives may come from any relevant graduate program, such as the M.B.A. program, Public Policy, Statistics, Economics, and the Princeton Exchange Program. May require prior authorization of the Graduate Program Director.

Electives for our graduate students

These electives may come from following academic units/programs at Rutgers University:

Rutgers Business School (RBS) courses used as electives (there may be more and some of these courses may have pre-reqs): Business forecasting, Web analytics, Organizational behavior, Accounting for mangers, Financial accounting, Aggregate economic analysis, Consumer behavior, Data analytics and decision making, Managerial and cost accounting, Global management strategy, Investment analysis and management, Statistical methods in business, STRATEGIC MANAGEMENT, etc. (**Note:** RBS requires prior permission, so contact the GPD).

Department of Economics courses used as elective (there may be more and some of these courses may have pre-reqs): Data science and econometrics, Economics of capital markets, Law and Economics, Financial economics, Portfolio theory, Economic forecasting and big data, Advanced econometrics for microeconomic data, Advanced time series and financial econometrics, Health economics, Public economics, Intro to math economics, etc.

Public Policy courses used as elective (there may be more and some of these courses may have pre-reqs): Cost benefit analysis, Economics of public policy, Budgeting for public policy, Environmental law and policy, Health and public policy, Managing people and organizations, Basic quant methods, Applied multivariate methods, Public policy and social history, etc.

Business and Science used as elective (there may be more and some of these courses may have pre-reqs): Market assessment and analysis for business and science, Food & business innovation, Global food supply and quality, etc.

Department of Statistics courses used as elective (there may be more and some of these courses may have pre-reqs): Basic applied stat, Categorical data analysis, Data analysis & decision making, Data mining, etc.

IMPORTANT NOTE: *(i) students are encouraged to explore course offering by other departments and/or programs for additional electives that they may be interested in enrolling, (ii) students are required to discuss their elective choices with their respective research advisers before selecting AND then must get approval from the GPD to enroll in any courses that is not a part of the Food and Business Program (16:395) in order for such courses to count toward a student's degree; without such prior approval, any course taken outside the Food and Business Economics program may not count toward a student's degree credits in the program.*

OPTIONS

The Graduate Program in Food and Business Economics offers two alternative plans of study leading to the Master's degree. Plan A requires 24 credits of course work plus completion of a research thesis. All students receiving graduate research assistantships are expected to follow this plan. Plan B is a non-thesis option in which students are required to complete 30 credits of course work plus a three-credit research paper.

A thesis is a more comprehensive research undertaking than a research paper and requires considerably more time and effort. Some of the key differences between a thesis and a research paper are:

1. A greater depth of theory and analysis is required in a thesis.
2. Most theses involve more data and its analysis than required for a research paper.
3. A thesis is usually longer than a research paper.
4. A thesis must satisfy the specific form requirements of the Graduate School while a paper must only comply with form requirements of the Graduate Program in Food and Business Economics.

Requirements for the Thesis Option (Plan A)

Coursework

Research Methods in Applied Econ (16:395:503) 3 credits (fall)

Microeconomic Theory w/Applications (16:395:505) 3 credits (fall) (Note 1)

Econometrics (01:220:322) or (11:373:425) 3 credits (fall) (Note 2)

Applied Econometrics (16:395:506) 3 credits (spring)

Electives 12 credits (Note 3)

TOTAL CREDITS OF COURSEWORK 24 credits (Note 4)

Research

All Plan A students are required to do scholarly research and demonstrate this ability by submitting an acceptable thesis, for which 6 graduate credits are given (thus, total credit completed for degree would be 24+6=30). In the second year of their program, students following Plan A are required to register for Research in Food & Business Economics (16:395:701 in Fall for 3 credits, and 16:395:702 in Spring for 3 credits).

The substantive content of the thesis is the responsibility of the student. The graduate student's entire advisory committee, which is chaired by the student's major professor, gives recommendation and advice in the development of the thesis problem and the research objectives and methodology; approves the student's formal research proposal; advises on data collection and analysis; and reviews the thesis in various drafts, making suggestions for improvements. The advisory committee has responsibility to accept or reject the completed thesis.

The style of the thesis must conform to the requirements of the Graduate School, as set forth in the pamphlet entitled Manuscript Form. This pamphlet is available at the Graduate School Office. A list of procedures for submission of the thesis is given under "Checklist for Master's Candidates" at the end of this handbook.

Requirements for Non-thesis Option (Plan B)

Coursework

Research Methods in Applied Econ (16:395:503) 3 credits (fall)

Microeconomic Theory w/Applications (16:395:505) 3 credits (fall) (Note 1)

Econometrics (01:220:322) or (11:373:425) 3 credits (fall) (Note 2)

Applied Econometrics (16:395:506) 3 credits (spring)

Electives 18 credits (Note 3)

TOTAL CREDITS OF COURSEWORK 30 credits (Note 4)

Research

All Plan B students are required to demonstrate their ability to apply economic theory and methods to a research problem through the completion of an independent study where the student successfully completes an acceptable research paper, for which 3 graduate credits are given (thus, total credit completed for the degree would be 30+3=33). In the second year of their program, students following Plan B are required to register for Independent Study in Food & Business Economics (16:395:620) in either Fall or Spring semester). Students following Plan B are NOT permitted to register for Research in Food & Business Economics (16:395:701/702).

The substantive content of the paper is the student's responsibility. The graduate student's advisory committee, which is chaired by the student's major professor, gives recommendations and advice in the development of the research problem and the research objectives and methodology; approves the student's formal research proposal; advises on data collection and analysis; and reviews the paper in various drafts, making suggestions for improvements. The advisory committee has the responsibility to accept or reject the completed paper.

Note 1. Or equivalent courses.

Note 2. Required of all students who have not previously had any econometrics course. Other students may replace this with an additional 3-credit elective course.

Note 3. Electives are approved by the student's major professor (i.e., the chair of the student's advisory committee) and the Graduate Program Director. At least 3 of the 12 elective credits must be courses in the Food and Business Economics program (courses with a prefix of 16:395). A maximum of 3 credits of approved 300 or 400 level (undergraduate) courses may be used as electives.

Note 4. This total includes coursework only. In addition, a student must register for 6 credits of thesis research.

Course Descriptions

Course Descriptions

16:395:502 (F) ***International Agriculture Development (3)***
The role of agriculture in the economic development of low-income nations. Analysis of induced technical and institutional innovations, human capital investments, and public policies to promote development.
Govindasamy/Oehmke.

16:395:503 (F) ***Research Methods (3)***
The scientific method and applied research in economics. Planning of research, including problem definition and preparation of research proposals. Overview of commonly used analytical techniques.
Vellangany.

16:395:504 (S) ***Industrial Organization of Food Industries (3)***
Firm organization and behavior in the U.S. food marketing system. Structure-conduct-performance, strategic behavior (game theory), price discrimination, integration, and welfare analysis of noncompetitive markets.
Bhuyan.

16:395:505 (F) ***Microeconomic Theory With Applications (3)***
Theories of consumption, production, markets, economic welfare, and efficiency, with empirical applications.
Jin.

16:395:506 (S) ***Applied Econometrics (3)***
Applications of econometrics to agricultural demand and price-related problems. Specification, estimation, and verification of single equation and simultaneous equation models. Topics include multicollinearity, autocorrelation, heteroscedasticity, dummy variables, analysis of variance, time series analysis and forecasting, and specification error.
Yu.

16:395:507,508 (F,S) ***Agricultural Economics Workshop (1.5, 1.5)***
Critical evaluation of the current research of faculty, graduate students, and invited scholars.

16:395:509 (S) ***Environmental and Resource Economics (3)***
Externalities, public goods, and causes of environmental problems. Analysis of the efficiency and welfare aspects of environmental policies. Common property resource problems and optimum extraction rates for renewable and nonrenewable resources.

16:395:510 (S) ***Agribusiness Marketing Research (3)***
Experience in formulating and conducting a relevant and meaningful agribusiness marketing research project. ***Bhuyan.***

16:395:511,512 (F,S) ***Contemporary Topics in Agricultural Economics (3,3)***
Economic theory as it relates to problems in agriculture, environmental, and resource economics.

16:395:620 ***Independent Study in Agricultural Economics (3)***
Independent study topic approved by graduate adviser and/or graduate program director.

16:395:701,702 ***Research in Agricultural Economics (BA, BA)***
Research topic approved by the graduate committee.

5-yr B.S./M.S. Program

5-yr B.S./M.S. Program

This 5-Year B.S./M.S. program allows students to earn both a bachelor's degree in any of the majors at Rutgers University and a master's degree in Food and Business Economics in five years rather than the usual six years (4+2=6). Students must apply during their junior year (see "To Apply " below). Students who are not Environmental and Business Economics (EBE) majors but are interested in the program would also be able to take advantage of this program provided they have the required preparation in economics.

This program recognizes that both bachelor's and master's degrees offered by DAFRE follow rigorous curricula and housed within one of the most prestigious professional schools at Rutgers University – the School of Environmental and Biological Sciences (SEBS). Many SEBS undergraduates, particularly those who major in EBE, seek careers in the region's financial, pharmaceutical, and food industries as well as careers with marketing and consulting firms. These students have the opportunity to earn an M.S. degree where they will develop high levels of quantitative and analytical skills in the economics of biotech/pharmaceutical sectors, production and marketing of agricultural and food products, land/environmental policy and management, and international development.

This 5-year BS/MS program also provides an excellent alternative to the typically more expensive 2-yr graduate programs, including an M.B.A. program. Additionally, this program will prepare those who seek to pursue doctoral programs in the fields of agricultural and resource economics, economics, agribusiness, and public policy equally.

B.S./M.S. Admissions Requirements

1. Students should discuss the program with the Graduate Program Director, Graduate Program in Food & Business Economics, Department of Agricultural, Food & Resource Economics. Contact information for the GPD: Dr. Sanjib Bhuyan, Professor, DAFRE/SEBS, Rutgers University; Email: bhuyan@sebs.rutgers.edu.
2. A minimum GPA of 3.0 or better is required at the time of application.
3. Students must successfully complete either Intermediate Microeconomics (01:220:203) or Demand and Price (11:373:422) *no later than* Spring Semester of their junior year.
4. Students should apply to the program in the Spring Semester (May 31st deadline) of their junior year (*need to make sure that they are applying to the BS/MS program and not to the traditional MS program*).

To Apply to the B.S./M.S. Program

1. Fill out the B.S./M.S. degree application form (152k PDF).
2. Attach a copy of your transcript (a downloadable copy is acceptable)
3. Submit a personal statement, i.e., statement of purpose, explaining why you would like to pursue this program
4. Three letters of recommendation

Once a student is admitted and he/she maintains the requirements discussed earlier, then during Spring semester of senior year the student will submit a formal application to the Rutgers Office of Graduate and Professional Admissions. The student will use the personal statement submitted (mentioned earlier) in this formal application. The Graduate Program in Food & Business Economics will forward the recommendation letters submitted by the student earlier to the Graduate Admissions office on his/her behalf.

A Typical Program of Study for the B.S./M.S. Program in Food and Business Economics (full-time) will be as follows:

SENIOR YEAR (FOURTH YEAR)

FALL:

1. Econometric applications (11:373:425), or Econometrics (01:220:322) (This course should ideally be taken by interested students in an earlier fall semester, and must not count towards their B.S. degree requirements.)
2. Research methods (16:395:503)
3. Micro theory w/app (16:395:505)
4. Undergraduate course remaining to complete BS/BA (max 3 credits)

SPRING:

1. Applied econometrics (16:395:506)
2. Undergraduate course remaining to complete BS/BA (max 12 credits)

SUMMER

1. Any remaining undergraduate course credits to receive BS/BA degree before fall semester begins

FIFTH YEAR

FALL:

1. Graduate elective courses 9 Credits for those in the thesis option. 12 Credits for those in the Plan B option.

SPRING:

1. Graduate elective courses:3 Credits for those in the thesis option. 12 Credits those in the Plan B option.
2. Research in Food & Bus Econ (16:395:702) 6 Credits for those with thesis option
3. Indep. Study in Food & Bus Econ (16:395:620) 3 Credits for those with Plan B option

For those in the thesis option, write M.S. thesis and defend. For those in Plan B, write the Plan B paper and defend.

*To successfully complete the M.S. program in Food & Business Economics, a student must complete either 24 course credits and 6 research credits (thesis option), or 30 course credits and 3 independent study credits (non-thesis option).*page content

Food Science 400 (SGS-FOODSCI)

FOOD SCIENCE 400

Degree Programs Offered: M.S./Ph.D.

Please visit the Food Science website.

The Food Science Graduate Program is a research-oriented, basic science program offering M.S. and Ph.D. degrees. Graduates are well versed in the primary disciplines of biology, chemistry and engineering as they apply to food systems and receive specialized training in their area of expertise. The program includes a significant number of part-time students and most graduate courses are offered after 4:30 p.m. to accommodate these students.

A significant number of the 100 major food companies in the United States have headquarters, manufacturing, or research facilities in New Jersey. This gives students the unique advantage of being able to interact with one of the most important segments of the manufacturing sector in the state.

Faculty

Nicholas Bello, Ph.D., Pennsylvania

Michael Blumenthal, Ph.D., Rutgers

Paul Breslin, Ph.D., Pennsylvania

George Carman, Ph.D., Massachusetts

Suzie Chen, Ph.D., Albert Einstein

Mikhail Chikindas, Ph.D., VNIIgenetika, (Moscow)

Yesu Das

Thomas Gianfagna, Ph.D., Cornell

Grace Guo, Ph.D., Kansas

Gil-Soo Han, Ph. D., Rutgers

Thomas Hartman, Ph.D., Rutgers

Chi-Tang Ho, Ph.D., Washington

Qingrong Huang, Ph.D., Nebraska

Hector Juliani, Ph.D., Cordoba (Argentina)

Mukund Karwe, Ph.D., Rutgers

Nuanyi Liang, Ph.D., Alberta

Linshu Liu, Ph.D., Kyoto

Karl Matthews, Ph.D., Kentucky

Nazir Mir, Ph.D., Indian Agricultural Research Inst

Maureen Morrin, Ph.D., New York University

Apostolos Pappas, Ph.D., Rutgers

Loredana Quadro, Ph.D., Naples (Italy)

Troy Roepke, Ph.D., California (Davis)

Diana Roopchand, Ph.D., McGill

Donald Schaffner, Ph.D., Georgia

Karen Schaich, Sc.D., Massachusetts Institute of Technology

Sue Shapses, Ph.D., Columbia

Nanjoo Suh, Ph.D., Illinois (Chicago)

Paul Takhistov, Ph.D., USSR Academy of Science

Beverly Tepper, Ph.D., Tufts

Nilgun Tumer, Ph.D., Purdue

Qing-Li Wu, Ph.D., Peking Union

Kit Yam, Ph.D., Michigan

Tiaming Yao, Ph.D., Purdue

Liping Zhao, Ph.D., Nanjing Agricultural

Food Science 400 (SGS-FOODSCI)

Degree Requirements

Degree Requirements

The program offers the Master of Science and Doctor of Philosophy Degrees. Candidates with bachelor's degrees in food science, chemistry, biochemistry, microbiology, or engineering are encouraged to apply. Both a thesis option and a non-thesis option are available to M.S. candidates. Students entering the program with a 4 year bachelor's degree typically will receive a Master's degree before advancing to the Ph.D..

All our graduate classes are offered in the evening, and a significant number of our students work full-time for food companies in the area and pursue graduate education part-time.

Master of Science Degree

The Program offers two possible Master of Science degrees: a research master's degree with a thesis based on independent research (Plan A) and a coursework master's degree with a critical paper (Plan B); the Plan B master's is considered a terminal degree that does not lead to a Ph.D..

Requirements for the Plan A master's include 21 credits of formal courses including a public seminar, 9 credits of independent research, a thesis based on independent research, and an oral defense of the thesis.

Requirements for the Plan B master's include 30 credits of formal courses including a public seminar, a critical paper, and an oral defense of the critical paper.

Most students will complete an MS degree in 2-3 years full time, while part time students take twice as long.

Doctor of Philosophy

The Ph.D. degree requires the completion of 72 credits, with at least 33 course credits and remaining being research credits. Up to 24 graduate level course credits from other accredited institutions or other graduate programs at Rutgers University may be transferred to the Ph.D. program, with approval of the graduate director. Additional requirements include presenting two public seminars, passing a written Ph.D. qualifying examination and an oral Ph.D. qualifying examination, and, most importantly, conducting independent and original research for a dissertation, and defending the dissertation in an oral examination.

Most students with an MS degree will complete an Ph.D. degree in and additional 3-4 years full time, while part time students take twice as long.

Master of Business and Science

The Program offers Master of Business and Science degree, which is part of the University Professional Science Master's program that brings together master's level study in science with courses in business and policy.

The Food Science MBS Program requires 24 food science and 19 business credits for a total of 43 credits. The students must (1) take 2 out of the following core courses: Food Biology Fundamentals, Food Chemistry Fundamentals, and Food Engineering Fundamentals, (2) take up to 6 food science electives, and (3) maintain an average B grade or above in all food science courses. Check the Learning Goals and Assessment for MBS Degree in Department of Food Science.

For more information, please contact Dr. Paul Takhistov or visit Master of Business and Science Degree website.

Master of Business and Science (4+1)

Exceptional Rutgers undergraduate students have the opportunity to enroll in the B.S./M.B.S. to earn both a Bachelor's degree and the Master's degree in a shorter period of time and at a lesser cost.

Students in their junior year who meet the requirements may apply for admission into the M.B.S. degree during the spring semester. These programs are arrangements whereby undergraduates apply early for master's degrees and are allowed to take excess credits in their senior year in anticipation of meeting the requirements for the higher degree. The M.B.S. portion can be completed part-time.

For more information, please contact Dr. Paul Takhistov or visit the Master of Business and Science Degree website.

Non-degree Program

Our graduate program does allow non-degree students.

Note that non degree students must still apply to the program, and be formally admitted. Application occurs on-line at the Graduate Admissions website

Non-degree students require a special permission number for every graduate course they wish to take. Special permission numbers are available.

Non degree students that intend to earn a graduate degree in Food Science are strongly encouraged to matriculate (i.e. formally apply to become a graduate student) as soon as possible. Non-degree students will not be allowed to accumulate more than 12 non degree credits.

Core Courses

Food Chemistry Fundamentals, 16:400:513
Food Biology Fundamentals, 16:400:514
Food Engineering Fundamentals, 16:400:507

Food Science 400 (SGS-FOODSCI)

Course Descriptions

Course Descriptions

16:400:501 (F) ***Flavor Chemistry (3)****
Isolation, fractionation, and identification of the desirable and objectionable flavor constituents in food; chemical mechanisms for the formation of flavor components in food; methods for measuring flavor and flavor stability of food and food components; manufacture of food flavors.
Ho. Prerequisite: One year of organic chemistry or equivalent.

16:400:504 (S) ***Carbohydrates in Foods (3)***
The basic chemistry and technology of carbohydrates in food products. Functional properties of carbohydrates are related to their structures and uses in food systems, with an emphasis on industrial gums.
Yildiz. Prerequisite: Organic chemistry.

16:400:505 ***(S) Lipid Chemistry (4)***
Structure and composition of lipids; chemical and physical properties; lipid structures in foods and biological materials; processing of fats and oils; fractionation, purification, and analysis of lipids; chemistry of degradation, autoxidation, pro-and antioxidants; emulsions and emulsifiers; membranes; health effects and physiology of lipids.
Schaich. Prerequisite: 16:400:513 or permission of instructor.

16:400:507. (S) Food Engineering Fundamentals (4)
Principles of material and energy balance, thermodynamics, fluid flow, and heat and mass transfer. Review of unit operations: thermal processing, refrigeration, freezing, evaporation, dehydration, extraction, filtration, membrane processes. Introduction to microwave, high pressure, and pulsed electric field processing.
Karwe. Prerequisites: Physics, calculus. (Pre-requisites for Rutgers 4+1 students UG students: Food Processing Technologies 11:400:301; Instructor-approved SPN required for course registration).

16:400:511 (S) ***Food Enzymology (3)***
Methods of measuring enzymatic activities; extraction of enzymes from microbial, plant, and animal systems; methods of enzyme purification and characterization; and regulation of enzyme activities by activators, inhibitors, and by covalent modification. Enzymes used by the food industry and methods for controlling endogenous enzyme activities.
Carman. Prerequisites: General biochemistry, 16:400:513,514.

16:400:513 (F) ***Food Chemistry Fundamentals (3)***
Basic chemistry of carbohydrates, proteins, lipids, vitamins, and water independent of and in relation to interaction during processing.
Schaich, et al. Prerequisite: Organic chemistry and Introductory Biochemistry (11:115:301 or 11:115:403) or equivalent. (Pre-requisites for Rutgers 4+1 students UG students: Food Chemistry 11:400:411; Instructor-approved SPN required for course registration)

16:400:514 (S) ***Food Biology Fundamentals (3)***
Mechanistic examinations of foodborne microbes, enzymology, biotechnology, postharvest physiology, nutrition, and current concepts in food safety as related to food composition and processing.
Matthews. Prerequisite: General microbiology and Introductory Biochemistry (11:115:301 or 11:115:403) or equivalent. (Pre-requisites for Rutgers 4+1 students UG students: Food Microbiology 11:400:423 and Food Microbiology lab 11:400:424; Instructor-approved SPN required for course registration)

16:400:526 (F) ***Predicting Shelf Life of Foods (3)****
The concept of shelf life, factors affecting shelf life, and strategies for shelf life extension. Applications of chemical and microbial kinetics to quantify food deteriorative reactions, mass transfer theories to quantify the movement of gases and vapors through package, and basic calculus to develop predictive shelf life models. Case studies and computer programs.
Yam. Prerequisite: B.S. degree in food science, chemistry, or a related field.

16:400:530 (S) ***Advanced Food Sensory Science (3)***
In-depth study of the principles of sensory physiology, taste psychophysics, and sensory evaluation with emphasis on food and food constituents and the various methods of product testing. Includes laboratory exercises.
Tepper. Prerequisites: 01:960:401 or equivalent; basic physiology; nutrition.

16:400:532 (S) ***Nutrigenomics and Nutraceuticals (3)***
Nutrigenomics is the study of the interaction between nutrients and other dietary bioactives on gene expression. This course will explore how common foods and food ingredients can impact our health by altering the expression of genes and the structure ofan individual's genome. The course will also investigate the nature and types of nutraceuticals for health, wellness and comfort promotion, including their origin, mechanism of action, ailments they target and potential benefits. Regulatory and labeling impact on food production will also be presented along with methods for the chemical isolation and characterization of nutraceuticals.
Rokosz.

16:400:535 (F) ***Beneficial Microbes in Food and Health (4)***
This course is directed to graduate students in the fields of Food Science, Nutrition, and Human/Public Health. It will be also available for undergraduate students who have sufficient background in Microbiology, Molecular Biology and Immunology. The course should be of interest for the students from the following graduate and undergraduate programs of study at Rutgers: Food Science, Agricultural Science, Biotechnology, Microbiology, Public Health, Animal Science, Pre-Medical/Health, etc. It is designed to give the students an understanding of the role of microorganisms in health promotion. Upon completion of the course, the students should be able to understand the microorganisms, which can positively influence human and animal health, understand the molecular mechanism underlying health promotion actions by probiotic bacteria, evaluate possible risks and determine essential measures required to control safety of health promoting microorganisms, and understand the role of microorganisms in animal and human health.
Chikindas. Prerequisite: General Microbiology or Biochemistry, or permission of instructor.

16:400:600 ***Seminar Food Science Audience (0)***
All students are required to register for Food Science Seminar Audience (16:400:600) every semester they are not taking 601 or 602 (see below). This class is a zero credit pass/fail class. Students watch the seminar presentation(s) and then offer comments. The seminar will be recorded for students who are not able to attend in real time.

16:400:601,602 ***Seminar in Food Science (1,1)***
Student and guest speakers present on topics related to some area of food science. Student participation is focused on providing experience in preparing, presenting, and defending scholarly research.

16:400:603 ***Special Topics in Food Science (BA)***
Designed to permit a student to work on a relatively short-term library or laboratory project and prepare a final annotated paper, or to elect a specially arranged course of a visiting investigator. Special topics should be work separate from a student's thesis or dissertation research, and credits earned for special topics do not apply towards the research credit requirements for graduation.

16:400:605 (F) ***Microbial Food Safety (3)***
Traditional and emerging pathogens, behavior (phenotypic and genetic) in food systems and host(s); government and industry regulations.
Matthews. Prerequisites: 01:119:390 and 11:126:302 or equivalent.

16:400:606 (F) ***Food Packaging Science and Technology (3)***
Packaging material science and applications, package systems analysis, modified atmosphere packaging, aseptic food packaging, microwavable food packaging, active and intelligent packaging, package and the environment, and regulatory aspects of food packaging.
Yam. Prerequisite: B.S. degree in food science, chemistry, or related field.

16:400:609 (F) ***Thermal and Nonthermal Processing of Foods (3)***
Topics: heat sterilization/ canning/ retorting, UHT, aseptic processing, frying, baking, ohmic heating, microwave heating, extrusion, high hydrostatic pressure, pulsed electric, pulsed light, oscillating magnetic field, irradiation.
Karwe. Prerequisites: Graduate Food Engineering Fundamentals (16:400:507) course (B or higher grade) or two undergraduate Food Engineering courses or graduate degree in any of the following: food science, chemical engineering, mechanical engineering, physical sciences. Some knowledge of simple programming (BASIC, Excel, Fortran, MatLab).

16:400:611 (F) ***Polymeric Properties in Food (3)*****
Polymeric properties of biological materials, organization of macromolecules in the form of food; physical and physico-chemical properties and their quantitative treatment; and quantitative design principles for their structure and organization.
Prerequisites: 16:400:507

16:400:612 (F) ***Introduction to Colloid and Interface Science (3)***
Principles of colloid and interface science. Analysis and design of the biocolloidal, food, and various natural dispersion systems in the context of fundamental physico-chemical interactions between surfaces/ phases. Major course topics are: suspensions, emulsions, foams, and biocolloids (cell/ cell and cell/ surface interactions).
Takhistov. Prerequisites: Calculus I, physical chemistry, or permission of instructor.

16:400:613 (F) ***Nanotechnology and its Applications in Biotechnology and Food (3)****
Basic concepts, investigation tools, and fundamental issues of nanotechnology, with emphasis on the applications of nanotechnology in agricultural and food systems, healthcare, food safety, and food packaging. Self-assembly, scanning probe microscopy, micro- and nanoencapulation, organic/ inorganic nanocomposites, DNA, and protein chips.
Huang. Prerequisites: Physical chemistry or permission of instructor.

16:400:701 (F), 702 (S) ***Research in Food Science (By Arrangement)***
****Only offered even years (ex. 2024, 2026)***
*****Only offered odd years (ex. 2025, 2027)***

French 420 (SGS-FRENCH)

FRENCH 420

Degree Programs Offered : M.A./M.A.T./Ph.D.

Please visit the French department website.

Program/Track Director:

Jennifer Tamas; gd@french.rutgers.edu; 848-932-8223; Fax: 732-932-7125

James Swenson (Fall 2024); gd@french.rutgers.edu; 848-932-8223

Administrative Contact:

Nina Echeverria; Nina.Echeverria@rutgers.edu; 848-932-4065

Chair/Equivalent: Lorraine Piroux; lpiroux@rutgers.edu 848-932-3721

The Department of French offers areas of interest that go beyond the normal confines of a language and literature program. These include a strong emphasis on Francophone literatures and cultures (three core faculty members and one Affiliated member), the theory and practice of translation, French and Francophone cultural studies, and French and Francophone film and media.

Faculty

Myriam Alami

Carole Allamand, Ph.D., Cornell

Anne-Catherine Aubert, Ph.D., Rutgers

Alisa Belzer, Ph.D., Pennsylvania

Uri Eisenzweig, Ph.D./Habilitation, Paris VIII

Jean-Louis Hippolyte, Ph.D., Colorado

Helene Merlin-Kajman, Ph.D., Paris III

Georgette Mitchell, Ph.D., Rutgers

Ana Pairet, Ph.D., Pennsylvania

Andrew Parker, Ph.D., Chicago

Lorraine Piroux, Ph.D., Northwestern

Richard Serrano, Ph.D., California (Berkeley)

Mary Shaw, Ph.D., Columbia

James Swenson, Ph.D., Yale

Jennifer Tamas, Ph.D., Stanford

French 420 (SGS-FRENCH)

Degree Requirements

The Program

Doctoral candidates in French at Rutgers receive rigorous and broad training in various aspects of French language, literature in and outside France, theory, literary and cultural criticism, and cinema. Doctoral candidates complete 16 courses beyond the bachelor's degree or equivalent; at least eleven of these must be taken at Rutgers. The qualifying examination is designed to develop in-depth knowledge of two subject areas and to provide a head start on doctoral research. Preparation for the qualifying examination allows students to choose a field and design a research topic under the close guidance of advisors.

Candidates in the doctoral program specialize in literary and cultural topics from the Middle Ages to the present. For a list of theses recently defended in the Department and those currently under way, please visit the website.

Exceptional students may be allowed to pursue a joint doctorate with a French university under a "cotutelle" agreement.

Admission to the Doctoral Program

With an M.A. from Rutgers

Soon after the M.A. oral examination (within ten days), the Examination Committee, in consultation with the Graduate Director, will recommend whether the M.A. recipient may be admitted to the Doctoral Program. In making this recommendation, the Committee will consider the student's performance on the written examination, the judgment of the oral examiners, and the student's performance in courses.

The Examination Committee will report on its recommendation at a meeting of the full Graduate Faculty for discussion and confirmation. Students are normally expected to have better than a 3.3 average in order to be admitted to the program; the Graduate School recommends 3.5.

With an M.A. from another University

Students holding an M.A. from another University are admitted to the Doctoral program on a conditional basis; their final status is determined by the French Graduate Faculty after they have completed 12 credits (four courses) at Rutgers.

After completing 12 credits with grades of B or better, these students should complete a Transfer of Credit request so that graduate courses taken at other institutions may be accepted toward the Doctorate at Rutgers (see the Graduate Catalog for procedure). The maximum load of such transferred credits is 15. Credits for a memoir or thesis are usually not transferable.

Students with a strong M.A. in a language and literature other than French may be admitted to the Ph.D. program if their level in French permits it. They may be required to do additional course work in French literature. They may also be allowed, on a case by case basis, to transfer some credits from their M.A. (for example literature courses in English or another language taken at a French or Francophone institution).

Course Requirements

Doctoral candidates are required to complete 48 credits of work beyond the B.A.

In addition, they are allowed to take three more credits in a field outside of but germane to French (subject to the approval of the Graduate Director).

The total of credits obtained outside the French Graduate Program, including foreign literature courses, should not exceed 12 beyond the B.A. (i.e., for both the M.A. and the Ph.D.).

Credit for graduate work taken at other institutions may be accepted in partial fulfillment of the course requirement (see above, Admission), but in no case (except "cotutelles," see below) will the doctoral candidate complete less than 33 credits at Rutgers.

Rutgers is a member of the Inter-University Doctoral Consortium (other members include Columbia University, the City University of New York, Fordham University, the New School University, and New York University), and has a long-standing exchange program with Princeton University. These programs allow doctoral-level students to take courses that have no equivalent available at their home institutions with one of the other participants. The explicit prior permission of the Graduate Program Director, as well as the relevant specialist at the home institution, the instructor of the proposed course, and the administrative officers of the Graduate Schools of both institutions, are required. Courses taken through these programs are considered by the Graduate School to represent regular Rutgers credits.

Research Credits

In addition to the 48 credits of course work, 24 credits of research are required for the Ph.D. degree. In principle, research credits (Research in French 701, 702) are not meant to be taken until the Qualifying Examination has been successfully completed. However, students are allowed to register for a maximum of six such credits during the last two semesters before they complete the Examination (i.e., three credits one semester and three credits the other).

Foreign Language Requirement

Doctoral candidates must demonstrate by examination a reading knowledge of one foreign language in addition to French. This language is usually a Romance language, or either German or Latin, but substitution of a different language on the basis of relevance to projected research is possible. Greater proficiency in that language, proven by either the successful completion of two graduate courses (6 credits) taught in the original language, or by obtaining an A grade in a Rutgers Summer Session foreign language for reading course may replace the language requirement.

The **foreign language examinations** are administered by the Language Center and must be passed in advance of the Qualifying Examination. Consult the Language Center for the schedule of these examinations.

Residence Requirement

Doctoral students normally spend at least one academic year of two consecutive terms, excluding Summer Session, as full-time students in residence at the Graduate School.

Ph.D. Qualifying Examination

The Qualifying Examination (Qual) is designed to allow students to gain field specialization beyond the basic coverage afforded by the M.A. Emphasizing depth and focus rather than breadth, it encourages students to develop familiarity with a range of texts and issues as well as to identify those areas of research that will lead directly to the dissertation.

Note: In order to be admitted to the Qualifying Examination, the student must have a grade point average of 3.5 or better.

Administration and Advising

The Qualifying Examination is taken no later than three semesters after completion of the M.A. Students who complete the M.A. in September, for example, will sit for the Qual by no later than January of the following academic year. For those who enter with an M.A., however, the normal expectation is that the Qual be taken at the end of the fourth semester, in May of the second year of study. All foreign language requirements must be completed in advance of the Qualifying Examination.

Decisions on the choice of a Primary and a Complementary Field must be made no fewer than four months in advance of the examination date. Requests to postpone the exam by one session will be considered by the Graduate Program Committee only for absolutely compelling reasons. Any changes in choice of fields must be approved by the Graduate Director.

The Qualifying Examination is to be prepared under faculty supervision. In consultation with the relevant Department faculty and the Graduate Director, the candidate will choose two Qual Advisors among members of the Graduate Faculty in French. The student will have identified one of these as the potential director of Ph.D. research; generally, the student will have taken at least one graduate seminar or independent study with each Qual Advisor.

Primary Field

The Primary Field will be chosen among one of the seven standard literature lists (Middle Ages-20th Century and Literatures in French of Africa, the Americas, and Asia) and Film. It will generally correspond to the student's intended area of dissertation research. Students must prepare the Primary Field standard reading list in its entirety. Those who enter the program with an M.A. from another institution are furthermore expected to be familiar with the works included on the M.A. portion of the Primary Field standard list.

Complementary Field

The Complementary Field directly supports the student's Primary Field of research specialization, though in some cases it will represent a distinct area of expertise. The Complementary Field should be grounded in coursework or independent study undertaken with one of the advisors.

In consultation with the Qual Advisors, the student may choose one of four options:

a) genre option. The student reads in their entirety works from one or more genres from a standard list other than that of the Primary Field, supplementing these works with other primary sources and critical works related to the genre under study.

b) historical option. The student selects from a standard list other than that of the Primary Field works corresponding to a historical sub-period or literary movement, supplementing these works with other primary sources and critical works related to the period or movement under study.

c) problem-based option (theory, criticism, interpretation). The student composes a list of primary and/or secondary works that share a common theoretical, critical, or interpretive problematic.

d) film option. The student screens a selection of 50 works chosen from the abridged standard Film list.

With the exception of option (d) film, the Complementary Field list is to be comprised of approximately 20-25 titles. Students will attempt with the help of the Qual Advisors to achieve a balance between primary sources and secondary texts as appropriate.

Format

The Qualifying Examination or Qual is composed of a take-home Written Examination followed within a week to ten days by an Oral Examination. The choice of language for the Written (French or English) is left to the student; the Oral will be conducted in both languages.

Declaration of intent to sit for the Qual should include specification of the language in which the Written Examination will be conducted. No less than one month in advance of the Qual, the student will submit to the Graduate Director for circulation to the Qual Committee the two Field lists along with a one-page statement articulating the presumed relation between the Primary Field, Complementary Field, and projected dissertation research. The Qual Committee is composed of four faculty members. The fourth member may be an outside member.

The Written Examination

The Written Examination is administered in the form of a seventy-two hour take-home. The student will respond to two of three proposed essay questions and is free to consult primary and secondary sources, notes, and dictionaries. Each essay will respond to the question asked by adopting and supporting a coherent position or thesis; it should be well-organized and rich in examples. Students are expected to follow standard MLA guidelines for bibliography and footnoting throughout. The length of each response will be approximately 2,500 words; the text should be double-spaced in a standard 10- or 12-point type. The student will submit a signed and dated copy of the examination to the Department Office within the allotted 72 hours.

The Oral Examination

The Oral Examination takes place seven to ten days after submission of the Written Examination. It begins with a discussion of the essays submitted for the Written Examination and moves from there onto an open interrogation and discussion of the works on the lists for both the Primary and Complementary Fields.

The purpose of the exam is to assess depth of familiarity with the chosen works and the ability to draw connections between them in a coherent and insightful way. It is not a quiz: questions will focus on matters relevant to the meaning of the works or concepts being discussed, and will require elaborate answers. Students should demonstrate serious personal knowledge of primary texts and their literary and historical contexts, as well as familiarity with the major critical issues and supporting bibliography, and the ability to articulate significant theoretical concepts and use them effectively.

Note: when Film is chosen either as a Primary or as a Complementary Field, the oral examination component will include, in addition to general discussion of the works on the list, the projection of one or more film clips for analysis and comment.

A student may be asked to retake one or more parts of the examination. One retry is allowed, ordinarily within six to eight weeks, and in any case no later than the subsequent exam session.

The examinee must bring to the Oral Examination the completed Application for Admission to Candidacy for the Ph.D. Degree (available in the Department) for committee signature. The Application will be signed by the Graduate Director and returned to the Graduate School where it will be kept on file. (At the time of the dissertation defense, the student must obtain the form from the Graduate School Office and submit it to the Graduate Director so that the results of the defense may be recorded.)

Upon successful completion of the Qualifying Examination, the student turns to the preparation of the dissertation proposal.

The Dissertation

Students should always be alert to possible subjects and discuss these possibilities with faculty members who might be interested in them. As explained above, by the time the Qualifying Examination has been completed, the student will have identified a research field and possible topic. During the subsequent preparation of the Dissertation Proposal, the student will establish a formal relationship with a Director and other faculty members in the appropriate areas of expertise, who will form the Dissertation Committee. No fewer than two, but no more than four months after successful completion of the Qualifying Examination, the dissertation proposal will be submitted to the Committee.

The Dissertation Committee

The Dissertation Director must be a full member of the French Graduate Faculty. The Graduate Director, upon the advice of the Dissertation Director and in consultation with the student, will formally appoint the other three members of the thesis committee: two members of the French Graduate faculty, either associate or full (at least one of which will have been already involved in the student's work and exam); and an "outside" reader from another department at Rutgers or from another university. When the "outside" reader is from outside Rutgers, the Graduate Director will forward to the Dean of the Graduate School a résumé of his or her qualifications. The Dean will then formally appoint the outside reader.

Substitutions in committee membership, once it has been formed, are the responsibility of the Graduate Director and will occur only if a member is unable to serve or if a student's dissertation topic changes, requiring a new dissertation director and/or modification of the committee. If the Dissertation Director or any other member of the committee leaves Rutgers, s/he may continue to serve on the committee with the approval of the Graduate Director. In cases other than these, approval for a change in committee membership rests with the Dean of the Graduate School, as required by Graduate School regulations.

Dissertation proposal and proposal defense

The proposal will comprise the following elements:

1. a ten-page description of the projected research, describing the corpus, methodology, key terms of analysis and shape of the argument;
2. a one- to two-page outline, with projected subdivisions and/or chapter headings;
3. a preliminary bibliography.

Preparation of the bibliography should involve exchanges with the Dissertation Director and at least one other member of the Dissertation Committee. In no case will the bibliography be dictated by advisors: it is as much the student's work as the proposal itself. The bibliography, which the student may choose to annotate in part or in whole, should reflect and document the present progress and future orientation of the student's research.

The Dissertation Committee and the candidate will convene for the dissertation proposal defense no later than two weeks after submission of the proposal. The student will deliver a ten- to fifteen-minute oral presentation on the proposed research, followed by collective discussion and a question and answer period. The time period allotted for proposal defense will be one hour.

In the event that the committee does not approve the dissertation proposal, the student will have one month to complete specified changes and to resubmit.

- **Development of the dissertation**

The student should aim to complete at least one chapter of the dissertation within six months to a year after the proposal defense. The first chapter will be read and evaluated by the full Committee. The Director will notify the other members of the Committee when subsequent chapters have been completed, and the student will transmit those chapters to the other readers if they wish. The Committee will agree to give ample and early warning of any reservations concerning the student's progress and must specify in writing the changes required for thesis acceptance. Should disagreement arise within the Committee during the development of the dissertation, the matter will be referred to the Graduate Program Committee for a decision. The completed doctoral dissertation must be read by the entire Committee and approved by the Director and at least two other members of the Committee.

While normally written in English, the thesis may, under certain circumstances, be written in French. In all cases, however, the abstract – a summary of the main findings of the thesis in fewer than 350 words – must be in English. The form of the thesis must conform to the specifications in the pamphlet Style Guide for Thesis and Dissertation Preparation, available at the Graduate School office.

- **Research Credits and Progress Reports**

Once they are admitted to candidacy (i.e., after having successfully completed the Qualifying Examination), students must register for research credits each semester until they complete their dissertations. Even after 24 credits have been completed, students writing a dissertation must continue to register for a minimum of three research credits per semester if on campus, one research credit per semester if not on campus. The maximum load of research credits is 12 per term.

The Dissertation Director is required to assign a grade of Satisfactory or Unsatisfactory for each semester in which the candidate is registered for research credit. To receive a grade of Satisfactory, the dissertation student must submit to his/her Director by November 30 and April 30 a brief written factual statement of progress during the term; the Director in turn will send the student's statement, along with a written comment and grade, to the Graduate Director by the first day of the final examination period in December and May. The Graduate Director will submit the grade and place the Director's report in the student's file. The student is responsible for transmitting the semester progress report to the Director; without it no grade of Satisfactory will be filed.

As is the case with course work, registration for research credits must be continuous in order to avoid a substantial reinstatement fee. A student who is unable to work on his/her dissertation in a given semester for extreme and compelling reasons (e.g., serious illness) may ask the Graduate Director for permission to register for Matriculation Continued, subject to the approval of the Graduate School.

- **Defense**

The final public oral examination is a defense of the dissertation. All members of the Committee should be present. If one member must be absent for some very compelling reason, s/he will conduct a private defense by telephone and, prior to the public defense, inform the Graduate Director in writing that the dissertation is acceptable. Once the thesis has been accepted by the committee, it must be submitted to the Graduate School (a copy will remain

in the French Department office) for certification, along with signed title pages, an abstract of no more than 350 words, and a number of other documents. Please consult the Graduate School website for details on the submission and certification process, which is complex and has stringent deadlines.

- **Diploma Application Form**

The form is to be obtained at the Graduate School and filed with the Registrar by specific deadlines for diplomas dated in May, October, and January. Please consult the Graduate School website for details.

Time Limit

The normal maximum for the Ph.D. is seven years from the time of the first registration in the Graduate School. Consult the Catalog for conditions and procedures for the granting of extensions. These limits are monitored annually.

Coordinated Doctorates ("Cotutelles")

"Cotutelle" conventions, passed between French universities and their foreign counterparts, allow French and foreign students alike to obtain a Doctoral degree in each country, for the same dissertation, written under the guidance of two co-Directors, with a minimum of one year spent in the "other" country.

Under such conventions (which are negotiated and passed by Rutgers on an individual basis, on behalf of a particular student, with a particular French university), our Department may either welcome a "Doctorat"-level student from a French institution to its Ph.D. program, or send one of its own students to France to earn a "Doctorat" along with a Ph.D.

A "cotutelle" student from a French university may be admitted through the usual admission procedure after completing a Master II and in no case later than the first year of thesis registration at the French university. S/he will be expected to take five courses at Rutgers during the year of study. At the beginning of the residency, the student will make a public presentation of his/her research topic. At the conclusion of the year in residence the "cotutelle" student will present to a three-person Committee for discussion a 20-page paper and accompanying bibliography based on the research accomplished. At least two members of the Committee will be members of the Department. Conversely, a student from Rutgers may start a "cotutelle" after completing the Qualifying Examination and beginning work on the dissertation. S/he will have to spend a year at a French university and fulfill whatever requirements that university may have which will be outlined in advance by the convention protocol, which has to be approved by both institutions.

In both cases, the procedure should be launched for compelling intellectual reasons, after extensive personal consultation with the two potential co-Directors, whose agreement (on the terms of the exchange as well as on the topic and content of the dissertation project) is an absolute prerequisite.

Students interested in the idea of a "cotutelle" should approach the Graduate Director, as well as the potential Dissertation Director (on the Rutgers side), as early as possible, preferably before taking their Qualifying Examination.

Course Descriptions

Course Descriptions

Purchase of books will not be available through the University bookstore. Because it saves as much as half off book prices and allows use of books unavailable to US distributors, students must order their books directly on the web. You can order books from a variety of on-line bookstores. French books can be purchased from Fnac, Amazon, Chapitre, or Schoenhofs, for example. Books in English (or with an ISBN beginning with 0) can be purchased from Amazon, Barnes and Nobles, or any other web site you can find. Please note: ISBN numbers are provided for each book. Be sure you order the correct version of the text. Check the ISBN before you order. Once you reach the web page, try a "full search" or "recherche détaillée" directly for the ISBN (when searching with the ISBN, do not include the hyphens). Books now have a 10–digit and a 13–digit ISBN, and you can search for either.

675 Studies in Francophone Literature - The Wars of World Literature in French
It would be no exaggeration to claim that contemporary France has been defined by three wars of the twentieth century: World War I, World War II and the Algerian War. Indeed, so profound has the impact of these three wars been that writers beyond France have also written fiction in French that grapples with their legacy. Rejecting the anglophone model of "World Literature," this course will address a series of interlaced questions: what does it mean for the French to write about war experienced beyond France? What does it mean for writers from beyond France to write about war experienced in France? What does it mean for writers from beyond France to write in French about wars experienced beyond France?
Professor: Richard Serrano
M 2:30 – 5:00 PM (ABW-4190)

685 Literature & Gender - "Marriage: From Submission to Subjugation"
From the Blue Beard myth to the Pelicot Case, this course will explore depictions of marriage—its glamorization as well as its darker dimensions—in fairy tales, novels, and films from the 17th century to the present day. We will cover a range of topics, including first encounters, passionate love, the wedding night, conjugal life, domestic violence, and sexual crimes, to understand what is at stake in the institution of marriage and how it has evolved over time. Authors examined will include Racine, Perrault, Aulnoy, Foucault, Beauvoir, Rich, Lorde, and hooks.
Professor: Jennifer Tamas
TH 1:10 – 4:10 PM (ABW-4190)

SPRING 2026

Offered in Comparative Literature (subject code 195)

516 Topics in Comparative Literature - Representation in Scare Quotes
This course considers the vicissitudes of the term "representation" from Erich Auerbach's Mimesis: The Representation of Reality in Western Literature (1953) to contemporary identity discourses. "Representation" has not always enjoyed the prominence – indeed, the ubiquity – that it does today in English, German, and Romance Language criticism and theory. Auerbach's confidence in the powers of representation – the notion that "reality" precedes and governs its linguistic depiction – gives way a decade later, with the advent of French semiology, to a pervasive distrust of the term, as if representation had suddenly lost its ability to bridge language and world. "The function of narrative," wrote Roland Barthes in 1966, "is not to 'represent.'" And again in 1968: "The goal today is to empty the sign and infinitely to postpone its object so as to challenge, in a radical fashion, the age-old aesthetic of 'representation.'" Barthes's "representation" (henceforth always with scare quotes) inaugurated what has come to

be called French Theory. Indeed, every major French thinker from the mid-1960s to the mid-80s (Lacan, Foucault, Althusser, Deleuze, Derrida, Lyotard, Kristeva, Marin, Lacoue-Labarthe, Nancy) took “representation” to be the name of a critical problem that each addressed differently, often through readings of German philosophy (Kant, the Romantics, Hegel, Marx, Nietzsche, Freud, Heidegger) that gave the problem a prehistory. Our course will survey these two decades of reflection on the nature of “representation” before considering in conclusion some recent uses of the term, especially in the context of diversity discourses
Professor: Andrew Parker
W 12:10 – 3:10 PM (ABW-4052)

French 420 (SGS-FRENCH)

Course Listings

Course Listing

YR	TERM	COURSE	CR	TITLE	CROSS LISTING	COURSE DETAILS
2024	Fall	16:420:513	3.00	**Hist of French Lang**	01:420:392:01 (08458), 01:420:403:01 (08459)	Section: 01 (Index: 25191) Professor: PAIRET VINAS Credits: 3.00 • M 1210 PM - 0130 HC S120 CAC Lec • H 1210 PM - 0130 HC S120 CAC Lec
2024	Fall	16:420:601	3.00	**Independent Study in French Literature**		Section: 01 (Index: 15298) Professor: SWENSON, JAMES Credits: 3.00 • PM - Lec
2024	Fall	16:420:687	3.00	**Topics in French Literature**		Section: 01 (Index: 15298) Professor: SWENSON, JAMES Credits: 3.00 • M 0350 PM - 0630 ABW 4190 CAC Lec • W 0350 PM - 0630 ABW 4190 CAC Lec

2024	Fall	16:420:701		**Research in French**		Section: A1 (Index: 15300) Professor: ALLAMAND Credits: • PM - Lec Section: P1 (Index: 15301) Professor: PAIRET VINAS Credits: • PM - Lec Section: P2 (Index: 15302) Professor: PIROUX Credits: • PM - Lec Section: P3 (Index: 15303) Professor: PARKER, ANDREW Credits: • PM - Lec Section: S2 (Index: 15304) Professor: SERRANO Credits: • PM - Lec Section: S5 (Index: 15305) Professor: SWENSON, JAMES Credits: • PM - Lec Section: S5 (Index: 15305) Professor: SWENSON, JAMES

						Credits: • PM - Lec
2024	Fall	16:420:800	0.00	**Matriculation Continued**		Section: 01 (Index: 15307) Professor: SWENSON, JAMES Credits: 0.00 • PM - Lec
2024	Fall	16:420:811	0.00	**Graduate Fellowship**		Section: 01 (Index: 15307) Professor: SWENSON, JAMES Credits: 0.00 • PM - Lec
2024	Fall	16:420:877	6.00	**Teaching Assistantship in French**		Section: 01 (Index: 15309) Professor: SWENSON, JAMES Credits: 6.00 • PM - Lec
2024	Spring	16:420:602	3.00	**Independent Study in French Literature**		Section: 01 (Index: 14339) Professor: TAMAS, JENNIFER Credits: 3.00 • PM - Lec
2024	Spring	16:420:615	3.00	**Studies Med Fr Lit**		Section: 01 (Index: 14340) Professor: PAIRET VINAS Credits: 3.00 • W 0350 PM - 0650 PM AB 4190 CAC Lec

2024	Spring	16:420:687	3.00	**Topics in French Literature**		Section: 01 (Index: 14341) Professor: TAMAS, JENNIFER Credits: 3.00 • M 0350 PM - 0650 AB 4190 CAC Lec

2024	Spring	16:420:702		**Research in French**		Section: A1 (Index: 14342) Professor: ALLAMAND Credits: • PM - Lec Section: A1 (Index: 14342) Professor: ALLAMAND Credits: • PM - Lec Section: A1 (Index: 14342) Professor: ALLAMAND Credits: • PM - Lec Section: P1 (Index: 14345) Professor: PAIRET VINAS Credits: • PM - Lec Section: P2 (Index: 14346) Professor: PIROUX Credits: • PM - Lec Section: P3 (Index: 14347) Professor: PARKER, ANDREW Credits: • PM - Lec Section: S2 (Index: 14348) Professor: SERRANO

						Credits: • PM - Lec Section: S5 (Index: 14349) Professor: SWENSON, JAMES Credits: • PM - Lec Section: T1 (Index: 14350) Professor: TAMAS, JENNIFER Credits: • PM - Lec Section: W1 (Index: 14351) Professor: WILLIAMS, ALAN Credits: • PM - Lec
2024	Spring	16:420:602	0.00	**Matriculation Continued**		Section: 01 (Index: 14352) Professor: TAMAS, JENNIFER Credits: 0.00 • PM - Lec
2024	Spring	16:420:615	0.00	**Graduate Fellowship**		Section: 01 (Index: 14353) Professor: TAMAS, JENNIFER Credits: 0.00 • PM - Lec
2024	Spring	16:420:687	6.00	**Teaching Assistantship in French**		Section: 01 (Index: 14354) Professor: TAMAS, JENNIFER Credits: 6.00 • PM - Lec

Genetic Counseling 681C (SGS-GENCOUNS)

GENETIC COUNSELING 681C

Degree Programs Offered: M.S.

Please visit the Genetic Counseling website.

Program Description

The Genetic Counseling Master's Program (GCMP) at Rutgers University is a 22-month graduate program for students wishing to pursue a career in the growing and exciting field of genetic counseling. Our training involves rigorous coursework, a variety of clinical rotations offered throughout the state, and a Master's research project.

Faculty

Jessica Rispoli, B.S. Biology, Richmond; M.S. Genetic Counseling, Maryland (Baltimore)

Christine Seymour, B.S. Biology, Scranton; M.S. Genetic Counseling, Arcadia

Shama Khan, B.A. Biological Sciences, Rutgers; M.S. Genetic Counseling, Arcadia; M.S., M.P.H. Human Genetics, Tulane

Elena Ashkinadze, B.S. Biochemistry, Temple; M.S. Genetic Counseling, Sarah Lawrence College

Christina Botti, B.S. Biotechnology, Rochester Institute of Technology; M.S. Genetic Counseling, Arcadia

Gary Heiman, B.A., Boston; M.S. Human Genetics, Sarah Lawrence College; Ph.D. Epidemiology, Columbia

Sherry Grumet, B.S. Illinois; M.S. Genetic Counseling, Sarah Lawrence College; M.A. Human Biology, Washington (St. Louis)

Brianna Jeffries, B.S. Genetics, Rutgers; M.S. Genetic Counseling, Emory

Degree Requirements

Degree Requirements

Program Standards for Enrollment

Academic: GCMP students are required to earn a grade of B or higher in all courses. A GPA of 3.0 or greater is expected at all times.

Program Requirements of Master's Degree

GCMP students must complete the following in order to graduate:

- Total Credits: 70
- Academic: Student has obtained a B or grader in all required coursework.

- Clinical: Student has passed all hospital and non-hospital based clinical rotations.
- Oral Examination: Student has passed the comprehensive oral examination that is held in the Spring semester of the second year of study.
- Thesis: Student has successfully completed a thesis, either research or capstone.

Additional information about Standards for Enrollment, Academic Standing, and Graduation Requirements are reviewed with all GCMP students during Student Orientation Events

Genetic Counseling 681C (SGS-GENCOUNS)

Course Descriptions

Course Descriptions

16:681:517 ***Inclusive Healthcare Practices for Genetic Counselors (1)***
Faculty: Shama Khan, MPH, MS, CGC
This seminar will provide an overview of diversity, equity, inclusion, and justice awareness and training through review of literature, self-assessment and reflection, group discussion and application to the genetic counseling profession. Coursework will include a self-assessment of implicit bias, an introduction to Diversity, Equity, and Inclusion (DEI) terminology, and dialogue on a variety of DEIJ related topics. Course will be driven by both faculty and student involvement. Select seminars will also involve invited guest speakers. This course aims to understand and appreciate DEIJ content, specifically how it interfaces with the genetic counseling profession. Through better awareness, seminar attendees will be encouraged to reflect on how their genetic counseling practice will contribute to a community of inclusivity.
Prerequisites: Enrolled in the GCMP or by permission course director.

16:681:535 ***Human Genetics (3)***
Faculty: Jinchuan Xing, Ph.D.
This is a foundational graduate course in human genetics, covering classical and non-classical patterns of inheritance, human genome structure and evolution, normal and abnormal processes of gene expression, molecular genetic pathology, and laboratory and statistical methods for genetic analysis. There will be three homework assignments, two in-class exams, and a final exam.
Prerequisites: Enrolled in the GCMP or by permission course director.

16:681:584 ***Research Methods for Genetic Counselors I (2)***
Faculty: Shama Khan, MPH, MS, CGC
The goal of this course, is to guide you in development of a research project idea, and to begin to explore other study aspects including study methodology and committee selection. In addition, this course will also provide you with relevant genetic counseling epidemiological principles for you to design your thesis project and what you will need for your career. The course has 2 components:

Component 1: We will meet in person to provide you a forum to begin to formulate ideas for their thesis project.

Component 2: This component is a fully-online epidemiology and biostatistics course for genetic counselors. It is NOT meant as a full course for either topic. Instead, it is meant to provide you with content and concepts that are the most relevant for genetic counseling. This includes, but is not limited to screening vs. testing, sensitivity/specificity, study design, measures of morbidity/mortality, reliability and validity, and bias.
Prerequisites: Enrolled in the GCMP.

16:681:586 ***Counseling Techniques for Genetic Counselors I (2)***
Faculty: Shama Khan, MPH, MS, CGC
In addition to effectively communicating genetic information, genetic counselors should also be familiar and proficient with employing basic and advanced counseling skills including but not limited to facilitating difficult decisions, crisis intervention and management. Through this course, the genetic counseling students will be introduced to a variety of psychological techniques and philosophies. This course will focus on instruction, delivery, and practice of psychosocial assessment and counseling skills employed during a genetic counseling session. Psychosocial aspects of genetic disease will also be studied (for example, guilt, shame). Content addressed in lecture format will be reinforced through structured role-play and through analysis of master videos. Students will also be expected to reflect upon their clinical experiences to enrich course material.
Prerequisites: Enrolled in the GCMP or by permission course director.

16:681:587 ***Counseling Techniques for Genetic Counselors II (2)***
Faculty: Shama Khan, MPH, MS, CGC
This course will focus on instruction, delivery, and practice of psychosocial assessment and counseling skills utilized during a genetic counseling session. The majority of the course will be dedicated to processing and analyzing cases from clinical rotations. Students will be expected to critique and process their clinical experiences to enrich course material. Counseling concepts will also be practiced and reinforced through role play exercises and other select activities.
Prerequisites: Enrolled in the GCMP and course 586.

16:681:590 ***Foundations of Genetic Counseling (3)***
Faculty: Jessica Rispoli, MGC, CGC
This course will provide an introduction to core genetic counseling skills and topics including constructing a pedigree, contracting, and various techniques surrounding communication, delivery of bad news, and decision facilitation. Emphasis will be placed upon risk assessment, risk calculation and the fundamentals of case management. This course will provide the framework prior to the genetic counseling clinical rotation. Information discussed in class will be reinforced by bimonthly role play exercises with members of the genetic counseling program faculty.
Prerequisites: Enrolled in the GCMP.

16:681:591 ***Reproductive Genetic Counseling (3)***
Faculty: Elena Ashkinadze, MS, CGC
This course focuses on issues surrounding genetic counseling in the reproductive setting. Topics covered will include artificial reproductive technologies (ART), prenatal screening and diagnostic testing, fetal ultrasound assessment, fetal interventions/therapy, teratogen counseling, basic aspects of common pregnancy complications, evaluation of miscarriages and stillbirths, perinatal bereavement and ethical and legal considerations in prenatal diagnosis. This course will provide the framework prior to the genetic counseling clinical rotation and builds upon concepts taught in Foundations of Genetic Counseling I. Each student will be assigned a challenging prenatal case

that they will need to research and prepare. This case will be presented during an assigned 11-12 session. These are also the cases the students may use for their NSGC abstract submission.
Prerequisites: Enrolled in the GCMP or by permission course director.

16:681:592 ***Advanced and Current Topics in Genetic Counseling (2)***
Faculty: Christine Seymour, MS, CGC
This course will focus on advanced areas of genetic counseling. The course will emphasize several important broad topics including the application and impact of emerging genetic and genomic technologies, exploration of cultural and ethical issues in genetic counseling, and developing cultural competency when working with a variety of patient populations. Examinations of current topics will be addressed through lectures, discussion of journal articles, and student presentations.

Over the course of the semester, students will also participate in seminars and discussions organized by NJLEND (Leadership Education in Neurodevelopmental and Related Disabilities program).
Prerequisites: Enrolled in the GCMP and course 590.

16:681:593 ***Genetic Counseling in the 21st Century (4)***
Faculty: Jessica Rispoli, MGC; Christine Seymour, MS, CGC
This course will focus on professional issues surrounding the genetic counseling profession. The course will also examine up-and-coming subspecialties within the genetic counseling profession. Professional issues including billing and state licensure will be addressed by content experts. Through this course, each student will be placed with a genetic counselor working in a non-clinical or non-hospital setting in an effort to expose the student to a variety of job opportunities and unique skills. The class will include several forums, providing the students the opportunity to present and process with one another aspects surrounding their placements.
Prerequisites: Enrolled in the GCMP or by permission course director.

16:681:594:01 ***Medical Genetics I (3)***
Faculty: Christina Botti, MS, CGC
This course reviews medical cytogenetics, Mendelian and non-Mendelian inheritance and laboratory technologies relevant to the practice of genetic counseling. It focuses on cytogenetics including chromosome pathology such as aneuploidy, structural rearrangements and copy number variants and dysmorphology. It introduces students to genetic conditions resulting from aneuploidy, Mendelian and non-Mendelian inheritance. Students will consider clinical, ethical and psychosocial issues surrounding genetics and clinical application of genetic testing and integrate the knowledge gained to propose diagnostic strategies for cytogenetic conditions and well as Mendelian conditions and provide risk assessment.
Prerequisites: Enrolled in the GCMP or by permission course director.

16:681:595:01 ***Medical Genetics II (3)***
Faculty: Christina Botti, MS, CGC
Using a systems-based approach this course expands on content and concepts learned in Medical Genetics I. It builds a clinical knowledge base, including but not limited to, the etiology, presentation and natural history of genetic diseases. It will continue to discuss dysmorphology assessment, diagnosis, treatment/management, and prognosis of selected genetic conditions and birth defects streaming from an understanding of normal versus abnormal embryological development. The focus will be on biochemical genetics to allow students to learn about the diagnosis, treatment, management and prognosis of selected inborn errors of metabolism and newborn screening. Knowledge surrounding biochemical genetics, neurological, immune and hyperlipidemia genetics will

be enhanced and students will integrate the knowledge gained to provide risk assessment, propose diagnostic strategies, and provide genetic counseling for these conditions. Students will build upon previous knowledge gained to consider ethical and psychosocial issues surrounding genetics, genetic testing and integrate the knowledge gained to provide risk assessment and propose diagnostic strategies for these conditions.
Prerequisites: Enrolled in the GCMP or approval by course director.

16:681:596 ***Applications of Medical & Clinical Genetics (2)***
Faculty: Jessica Rispoli, MGC; Christine Seymour, MS, CGC
This course will require students to apply medical genetics content and how it translates to medical genetics sessions in a pediatric and adult setting. Exercises and role plays will focus on case preparation, pedigree ascertainment, testing strategy, and communication. Case work will correspond to topics covered in Medical Genetics I.
Prerequisites: Enrolled in the GCMP; Enrolled in Medical Genetics (681:594).

16:681:597 ***Clinical Cancer Genetic Counseling (3)***
Faculty: Sherry Grumet, MS, CGC ; Brianna Jeffreys, MS, CGC
This course is designed to introduce the principles and practice of genetic counseling for hereditary cancer syndromes. The course will cover topics such as cancer epidemiology and biology, detailed characteristics of common and rare hereditary cancer syndromes (including information on diagnosis and risk management options for various types of cancer), genetic risk assessment, testing strategies, and the psychosocial and ethical aspects of genetic counseling for hereditary cancer syndromes.
Prerequisites: Enrolled in the GCMP or by permission of the instructor.

16:681:598 ***Research Methods for Genetic Counselors (3)***
Faculty: Shama Khan, MPH, MS, CGC
The goal of research methods course is to guide you in designing your thesis project, choosing a thesis committee, and writing a research proposal. Students will also complete the IRB human subjects training, the Collaborative Institutional Training Initiative (CITI). At the end of this semester, students must submit the Thesis Proposal form, draft IRB protocol, and Thesis checklist Part 1 in order to receive a passing grade.
Prerequisites: Enrolled in the GCMP.

16:681:599 ***Genetic Counseling Fieldwork I, II, and III (5)***
Faculty: Christine Seymour, MS, CGC
This course provides opportunities for direct patient contact and to apply skills addressed and learned in didactic courses. Opportunities to perform counseling roles are imperative in the training of genetic counseling students prior to entering the work force. Through these placements, genetic counseling students will receive training and mentorship in various clinical settings, including prenatal, pediatric, cancer, industry, and other specialties. Students will perform various genetic counseling roles throughout the sessions, at the discretion of their supervisor. Students will be placed at a clinical site recognized by the American Council of Genetic Counseling (ACGC) and cases participated in will contribute to the case logbook required by the American Board of Genetic Counseling (ABGC) for certification. The Program Director and Assistant Program Director will be providing ongoing oversight of these clinical placements.
Prerequisites: Enrolled in the GCMP or by permission course director.

16:681:687 ***Lab and Clinical Rotations for Genetic Counselors (2)***
Faculty: Christine Seymour, MS, CGC
This course provides opportunities for first year genetic counseling students to observe direct patient contact in clinical genetics, specialty clinics, and lab settings. The Associate Program Director will be providing ongoing oversight of these clinical placements and will also coordinate placements.

These placements that will be scheduled throughout the semester may include:

- pediatric genetics clinics
- prenatal genetics clinics
- cancer genetics clinics
- cytogenetics laboratory
- molecular genetics laboratory
- various specialty clinics (Endocrine, Cardiac, Cystic Fibrosis, Hearing Loss)

Prerequisites: Enrolled in the GCMP, Successful completion of Foundations in Genetic Counseling I and II and Medical Genetics I.

16:681:701:01 ***Research (3)***
Faculty: By assignment

16:681:702:01 ***Research (3)***
Faculty: By assignment

Geography 450 (SGS-GEO)

GEOGRAPHY 450

Degree Programs O[?]**ered:** M.A./M.S./Ph.D.

Please visit the Geography website.

The Graduate Program in Geography encourages work on a wide range of research specialties and fosters strong interdisciplinary ties. Topics reflected in the work of our faculty and current graduate students include: *human geography*, *physical geography*, and *human-environmental geography*. Each of these core areas may be enhanced through training in advanced *geographical techniques*.

The graduate program has a total of 35 faculty members. They consist of 16 members of the “core” Department of Geography faculty and 19 faculty members with geographic research interests located in other schools and departments, such as the Edward J. Bloustein School of Planning and Public Policy; the Department of Human Ecology; the Department of Ecology, Evolution, and Natural Resources; the Department of Landscape Architecture; and the Department of Anthropology.

Faculty

Daniel Barone, Ph.D., Rutgers

James DeFilippis, Ph.D., Rutgers

Carlos Decena, Ph.D., New York University

Nate Gabriel, Ph.D., Rutgers

(David) Asher Ghertner, Ph.D., California (Berkeley)

Ubydul Haque, Ph.D., Nagasaki

Jenny Isaacs, Ph.D., Rutgers

Wolfram Hoefer, Ph. D., Technical (Munich)

David Hughes, Ph.D., California (Berkeley)

Richard Lathrop, Jr., Ph.D., Wisconsin (Madison)

Robin Leichenko, Ph.D., Pennsylvania

Andrea Marston, Ph.D., California (Berkeley)

Melanie McDermott, Ph. D., California (Berkeley)

Pamela McElwee, Ph.D., Yale

Kathe Newman, Ph.D., CUNY

Paul O'Keefe, Ph.D., West Virginia

Will Payne, Ph.D., California (Berkeley)

Priscilla Pinto Ferreira, Ph.D., North Carolina (Chapel Hill)

Victoria Ramenzoni, Ph.D., Georgia

Edward Ramsamy, Ph.D., Rutgers

Asa Rennermalm, Ph.D., Princeton

Kevon Rhiney, Ph.D., West Indies

Trinidad Rico, Ph.D., Stanford

J.T. Roane, Ph.D., Columbia

Jesse Rodenbiker, Ph.D., California (Berkeley)

David Robinson, Ph.D., Columbia

Laura Schneider, Ph.D., Clark

Ethan Schoolman, Ph.D., Michigan

Mi Shih, Ph.D., Rutgers

Lei Song, Ph.D., Clark

Genese Sodikoff, Ph.D., Clark

Kevin St. Martin, Ph.D., Clark

David Tulloch, Ph.D., California (Los Angeles)

Mary Whelan, Ph.D., California (Berkeley)

Teona Williams, Ph.D., Yale

Degree Requirements

Degree Requirements

The Geography program offers the following degree options: Master of Arts (M.A.), Master of Science (M.S.), and the Doctor of Philosophy (Ph.D.). The requirements are identical for the M.A. and M.S. degrees; students seeking a Ph.D. are eligible to enter the Ph.D. program without first obtaining a Master's degree. Ph.D. students who do not hold a Master's degree may obtain the M.A./M.S. upon completion of their Ph.D. qualifying exams

Students seeking the **M.A./M.S. Degree** in Geography must complete a total of 30 credit hours of graduate study. They may pursue the degree via one of two options:

1) Thesis Option: by taking 24 credits of course work and six research credits, submitting a thesis written under the supervision of the student's committee, making a public presentation of the thesis, and successfully defending it orally in response to questions prepared by the student's committee.

2) Exam Option: by taking 30 credits of course work, submitting a writing sample for approval by the student's committee, and successfully passing written comprehensive examinations given and evaluated by the student's committee. The writing sample, typically a revised seminar paper, is expected to be substantial, though considerably less ambitious in scope than a thesis.

The Ph.D. program in Geography at Rutgers emphasizes preparation for a research-oriented career in academia, public service or the private sector. All students must complete Geography 450:601 "Geographic Perspectives" and 450:602 "Research Design." Some students may be asked to compensate for other deficiencies in their preparation for the Ph.D. (see coursework above) prior to advancing to candidacy.

The Ph.D. differs qualitatively from bachelor's and master's degree programs in its emphasis on research, with the dissertation serving as a major, original contribution to knowledge. Accordingly, the doctoral program in Geography at Rutgers emphasizes preparation in the student's area (subfield) of specialization, research as a problem-solving activity, and evidence of readiness for scholarly publication.

The Ph.D. degree at Rutgers requires 72 credit hours of graduate study, including a *minimum* of 24 research credits. Students entering the program with prior coursework in geography or cognate fields may apply to have **up to 24 credits** transferred from other universities **upon completion of 12 credits of graduate-level coursework with grades of B or better in SGS as a matriculated student.**

The doctoral qualifying examination is typically taken after the student has completed 48 course credits (including those transferred from a Master's degree). For students entering the program with a prior Master's degree (or equivalent graduate degree), the **qualifying exams should typically be taken during their 4th semester in the program** (i.e., during spring semester of their second year). For students entering the program without a prior Master's (or equivalent degree), the qualifying exams should typically be taken during the 6th semester in the program (i.e., during spring semester of their third year). While the exam is usually taken after all coursework is completed, the exam may be taken during a student's final semester of coursework. Under such circumstances, the student may not officially advance to candidacy until suitable grades are posted for any outstanding coursework taken during the term in question. The qualifying exam cannot be taken while any "Incompletes" remain on the record.

The qualifying exam has both written and oral components. Its purpose is to assess the student's problem-solving skills and mastery of field knowledge appropriate for conducting dissertation research. There are three main components, the dissertation proposal, the written exams, and an oral exam. Setting the examination timetable in conformity with the schedules of the committee members is the responsibility of the student and their advisor, who also serves as the qualifying exam committee chair.

Beyond the guidelines set forth by SGS and the goal of internal consistency, the Geography program requires only that the dissertation format be appropriate to the subject and methods applied in the course of the research. Because the various sub-disciplines of geography, as represented by their professional journals, employ different conventions in matters of format and style, candidates are encouraged to select those consistent with whatever professional outlet is most appropriate for eventual publication of the research.

As the student's field research and dissertation writing gets substantially underway, the main advisor and other committee members should monitor progress and provide clear and early indications of any reservations they have about the direction of the research, carefully specifying any changes needed for eventual dissertation acceptance. When the student and individual members of the doctoral committee judge the dissertation to be complete and ready to be defended, the student is to request to their advisor/Dissertation Chair, that a defense be scheduled, at which point a complete draft of the dissertation is to be circulated to committee members for review.

The Chair of the Doctoral Dissertation Committee informs the GPD in writing of the results of the defense. After all required revisions of the dissertation are completed, the signed and completed Candidacy form is provided to the GPD for final program approval.

Geography 450 (SGS-GEO)

Course Descriptions

Course Descriptions

16:450:518:01 ***Directed Study (3)***
Directed readings and individual study supplementary to formal courses. *Prerequisite: Permission of graduate director.*

16:450:508 ***Environment and Development (3)***
This course is designed as a critical introduction to key debates around the relation between social inequality and nature, broadly construed. The urgent matters located at this intersection cut across political scales and geographic borders, threatening local livelihoods as well as global economic systems. Attending to both historical legacies and contemporary challenges, we will explore the political philosophies, economic processes, and techno-scientific

practices that make socio-environmental justice such an elusive goal today. While grounded in political ecology, our approach in this course will be irreverent. By tracing political ecological themes through classic texts as well as recent permutations, we will incorporate knowledge derived from critical race and gender studies, environmental history, environmental anthropology, and Science and Technology Studies, all while remaining connected to political economic principles. Our aim is to renovate the key concepts of political ecology so that they travel better to our respective field sites. In particular, we will attend to the relationships between representation and production, discourse and materiality, in order to consider the multiple facets of socio-natural 'development.' *Taught by Dr. Andrea Marston*

16:450:511 ***Land Change Science (3)***
Changes in land-use (human use) and land-cover (biophysical condition) are persistent, and when aggregated at a global scale affect key aspects of the earth system functioning. Such changes also affect economies and human welfare and the vulnerability of places and people to climatic, economic and socio-political perturbations. Land Change Science is an interdisciplinary field of study that seeks to observe and monitor land-cover and land- use change and explain this change as a coupled human-environment (or socio- ecological) system. Through a broad range of readings, this seminar examines the development of land change science and the theoretical and methodological challenges to linking biophysical, socio-economic, and remote sensing/GIS analysis. *Taught by Dr. Laura Schneider*

16:450:513 ***Economic Geography: Capitalism and its Others (3)***
Economic theory does more than describe the economy, it constitutes and actively shapes it. The course will engage with a variety of research currents across several disciplines that are rethinking economy as a diverse and decentered field rather than a single entity or dominant force. For example, economic geographers and other scholars have recently turned their attention toward "alternative economic spaces" and practices, and have done so by drawing on feminist understandings of the economy, anthropological investigations into non-capitalist economies, sociological re-workings of "the market" as a site of contingency rather than law, and post-structural critiques of "development" which posit that "another production is possible." These are all endeavors that are working to decenter the economy as a single form or identity and thereby reveal economic spaces and landscapes as decidedly more diverse, differentiated, and open to intervention. The course will also integrate examples from the solidarity economy, fair trade, alternative food networks, cooperative production, cooperative and co-housing, reclaiming commons, and bartering and informal markets as cases of organizations, institutions, or movements that are enacting alternatives to the current economic "system." It will read these cases for their economic difference, relationship to place, implications for community and environmental wellbeing, and transformative potential across spatial scales. *Taught by Dr. Kevin St. Martin*

16:450:514 ***Politics of Nature (3)***
The aim of this course is to imagine the contents and limits of a politically engaged "technoscientific geography." Broadly speaking, critical human geographers and science studies scholars have not been in substantive conversation with one another, despite sharing many of the same empirical interests. Most notably, both disciplinary traditions share a set of concerns with the politics of nature and questions of environmental justice. *Taught by Dr. Andrea Marston*

16:450:516 ***Urban Geography (3)***
Urban natures are variously described as decaying or fecund, moribund or overflowing, restricted or boundless, terminal or networked. As palimpsests and temporal assemblages of built form, communicative media, and ecological flow, cities are variously hailed as the solution to the global climate crisis or its deepest cause, the

sites of concentrated ecological death or the wastelands from which new, even mutant, life can emerge. In the Anthropocene—the name given to our present era defined by a "great acceleration" of the production of waste combined with intensified human and non-human vulnerability to environmental change precipitated by that waste—cities evoke contrasting sentiments and political affinities. They also sit most exposed to the deepening uncertainties of environmental change, concentrating not just symbolic and economic functions—as "the urban" has been framed historically—but also vulnerabilities and violences. Cities place bodies in relations of collective dependence, but also expose them to heightened environmental and social risk, from extreme weather events to leaded water intake and industrial accidents. *Taught by Dr. Asher Ghertner.*

16:450:601 ***Geographic Perspectives (3)***
This course is required of all geography graduate students and is meant to be an upper- level introduction to the field of geography, its history, and contemporary theoretical development. The course will also give students an opportunity to contextualize their own interests in terms of the topical and theoretical traditions of this discipline. This course is designed as the first of two sequential courses (601, 602); students will begin with a topical and theoretical contextualization of their interests in 601 and then proceed to the building of an individual research program in 602.

16:450:602:01 ***Research Design (3)***
This course provides a graduate-level introduction to research design in geography. Several research approaches and elements of research design will be reviewed through lectures, assigned readings, class discussions and workshops. Class discussions and workshops will focus on the identification of research problems, conceptualization of research questions, linking research problems and questions to appropriate literature and linking research questions to appropriate conceptual frameworks, methods and techniques. Class time will also be devoted to discussion of readings and to development and discussion of each student's individual research proposal. Ultimately, the aim is for students to develop individual research projects and to present their projects in written (proposal/working document) and oral (presentation) formats.

16:450:605:01 ***Climate and Society (3)***
This graduate seminar will explore current theory and research on societal impacts and responses to climate change. Major topic areas will include framing the issue of climate change, climate change impacts, vulnerabilities and resilience, adaptation planning and policy options, and transformation. While course readings will draw from a broad set of social science literatures, the course will emphasize socio-spatial dimensions of these issues, focusing on how processes of climate change and efforts to address these processes play out at local and regional levels. The course will be of interest to students who are new to this area of study and to those who are already engaged in research on the human dimensions of climate change. The course will follow a seminar format with emphasis on readings and discussion of assigned materials. Students will also complete a term paper on a topic related to climate change and society. *Taught by Dr. Robin Leichenko*

16:450:605:02 ***Exploring Climate Change Indicators (cross listed with 450:413)***
This seminar explores changing climate by examining indicators that are used to express the rate and magnitude at which key aspects of the climate system are varying. Indicators include a multitude of environmental variables across the globe, such as those put forth by the US Global Change Research Program http://www.globalchange.gov/browse/indicators and the US Environmental Protection Agency https://www.epa.gov/climate-indicators. *Taught by Dr. Asa Rennermalm*

16:450:605:04 ***Human Dimensions of Environmental Change: Nature/Society (3)***
This course is the key seminar for the Human Dimensions of Environmental Change graduate certificate program. The seminar is designed to provide students with a survey of theories and concepts in human-environment studies. We will examine how perspectives and arguments of oft-cited social theorists (e.g. Marx, Foucault, Latour, etc.) have been taken up in nature-society scholarship in geography, anthropology, development studies, environmental studies, and other disciplines. To do so, we will read selected writings from social theorists as well as empirical applications together, making sense of writing and concepts through collective discussion and debate. *Taught by Dr. Pamela McElwee*

16:450:605:04: ***Critical Ethnographies of Power and Hegemony (3)***
This course takes the ethnographic examination of social power as its central object. Our key concern is with the production of consent; the exercise of resistance, counter-conduct, and disagreement; and the institutional and cultural apparatuses that limit or facilitate transgressions of hegemonic norms. Why does the working class participate in forms of economy that reinforce their subordinate status? How do popular opinion, ideology, and doxa produce socialized norms for guiding behavior and thought? What are the mechanisms that lead subjects to "do as they ought," even when it seems against their interest to do so? How are subjectivities fashioned so as to conform with social norms, even while retaining the capacity to exist otherwise? *Taught by Dr. Asher Ghertner*

16:450:606 ***Geography Seminar: Agrarian Transformations (3)***
The primary goal of this course is to explore key debates and critical perspectives on agrarian change and its relation to various imperial and capitalist formations. Materials will be drawn from a variety of academic subfields including peasant studies, food/resource geographies, critical agrarian studies, agroecology, cultural and political ecology and post/decolonial studies. We will examine the historical, political, economic and ecological contexts that have given rise to agrarian changes in different geographic settings, while considering the attendant implications for agrarian relations, subject formations, processes and actors. This includes paying close attention to the central issues that have long animated Marxian-inspired debates around the enduring agrarian question – how capitalism continually transforms agrarian systems and the degrees to which smallholders have been able to resist dispossession and the industrialization tendencies of modern agriculture – to more emergent and contemporary issues pertaining to food security, racial capitalism, food justice, land and labor struggles, climate change, and the ethical and ecological implications of an ever-expanding industrial capitalist agrifood system. *Taught by Dr. Kevon Rhiney*

16:450:606:05: ***Abolition Geographies & Transformative Justice (3)***
This course engages literature and activism by contemporary thinkers-organizers of the abolitionist movement in the US from the 1970s to today. Abolition envisions ways to build through collective thinking and collaborative work, "a world where we address harm without relying on the violent systems that increase it; where we have everything we need that is foundational for our personal and community safety," as abolitionist Mariame Kaba states it. We will center the pioneering voice, bold actions, and visionary callings of women of color in prefiguring present and future abolition worldling. Despite all odd and discrediting remarks, people of color, immigrants, LGBTTQI+, and communities of people with disabilities have been developing restorative justice, transformative justice, and community accountability frameworks and practical tools. They have been calling us to reimagine and enact through "a million experiments" a world where harm is not taken for granted nor normalized in relationships and institutions. We will examine questions such as: How to respond to violence without resorting to statearmed forces and stigmatizing social services? How has the contemporary abolitionist movement set the ground to create the conditions and possibilities for the Black Lives Matter Movement and increasingly loud cries for defunding the police and abolishing the prison-industrial-military complex? How to sustain communities and institutions through mutual aid/solidarity economy schemes? How to account for power differential within the communities

and movements themselves? How to "change everything" while nurturing a politics of pleasure and joy? The course will investigate carceral geographies and abolition geographies from abolition feminism, abolition ecologies, and abolition economics perspectives.
Taught by Dr. Priscilla Ferreira

16:450:607 ***Geography, Space, and Social Theory (3)***
focuses on social theories that both inform and have been informed by geography. It emphasizes the meanings and productions of space, its contextualization in society and science, its fixing and alignment with hegemonic social and economic structures, and the many potentials that exist for its disruption and reconstitution as a site of difference and alterity. The course will be of interest to students across the social sciences where theoretical understandings are increasingly intertwined with cartographic and spatial concerns, metaphors, and metrics. *Taught by Dr. Kevin St. Martin*

16:450:608 ***Black Ecologies (3)***
This *Black Ecologies* seminar will engage the historical and ongoing points of contact, departure, and possibility between critical Black ecological study and the earth's transforming metabolism. We will investigate the corpus of insurgent knowledge produced by Black communities, including formal literature, essays, organizing and activist praxes, and verbal and musical expressive cultures challenging the braided conditions of anti-Black disposability, extractivism, and ecocide as well as plotting horizons outside earth and life sundering domination and violence. *Taught by Dr. J.T. Roane*

16:450:610 ***Black Geographies (3)***
The course approaches Black geographies as an ever-unfolding spatial expression of Black studies by asking the following questions: What are black geographies? Who may see/produce a Black geography? What is the relationship between Black place-making and Black being/ontology? What is the future of Black geographies in and outside of academia? *Taught by Dr. Teona Williams*

16:450:615 ***Seminar in Remote Sensing (3)***
Course teaches the fundamentals of digital analysis, interpretation and application of satellite remotely sensed imagery. Students will develop an understanding of digital image processing techniques and become proficient in the hands-on application of techniques. *Taught by Dr. Richard Lathrop*

16:450:620 ***Urban Theory (3)***
Category: Courses taught by Geography Department
Surveys core theoretical propositions underlying the interdisciplinary field of critical urban studies, while also interrogating recent innovations in the form and nature of urban claims making, spatial practice, and governance. Places special emphasis on postcolonial and "Southern" urbanism. *Taught by Dr. Asher Ghertner*

16:450:702 ***Research in Geography (3)***
Category: Courses taught by Geography Department

16:762:624:01 ***Planning, Public Policy, and Social Theory (3)***
Category: Courses taught by Bloustein School of Planning and Public Policy
This seminar has two goals: (1) to identify, deconstruct, and evaluate some of the major conceptual building-blocks deployed in theory, practice, and research in planning and public policy; and (2) to consider the power of theory

in enabling, and constraining the production and application of knowledge in planning and public policy. Through intensive reading and class discussion, students reflect on the assumptions, presuppositions, and conceptual frameworks informing their research. *Taught by Dr. Kathe Newman*

16:970:501:01 ***History and Theory of Planning (3)***
Category: Courses taught by Bloustein School of Planning and Public Policy
Traces the evolution and development of the theory and practice of urban planning in historical context, examining how planning reflects the ambitions, contradictions, and challenges of the place and time in which it occurs. By examining changing approaches to the theory and practice of planning, students can clarify their own choices regarding the particular practice of planning with which they hope to engage. *Taught by Dr. James DeFilippis*

16:970:509:01 ***Urban Economy and Spatial Patterns (3)***
Category: Courses taught by Bloustein School of Planning and Public Policy
This course examines the urban as the domain or sphere of urban planning. What are the forces, dynamics, processes, performances, actions, and practices that create the economic, political, social, cultural, discursive, ideological, and experiential city as the subject and object of urban planning? How do contending urban theories and approaches constitute the city in different ways, implicating different kinds of planning and policy in response? Students complete a research paper examining an empirical example or case study of an urban process and the challenges it presents for planners.

16:970:653:01 ***Social Justice in Planning and Public Policy (3)***
Category: Courses taught by Bloustein School of Planning and Public Policy
An in-depth exploration of the possibilities for, and barriers to, social justice in planning and public policy. Readings examine social justice as a normative principle, motivating ideal guide to action the practice of planning and public policy. The first half of the course surveys contending approaches to social justice variously understood as equality, fairness, legitimacy, integrity, inclusiveness, and usefulness, and considers the implications for practice of adopting one or another of these conceptions of justice. The second half of the course considers challenges to social justice posed by structural inequality, disempowerment, diversity and multiplicity, localism and globalization, and the inadequacy of democracy as a mode of collective decision-making in a post-political world. *Taught by Dr. James DeFilippis*

Geography 450 (SGS-GEO)

Rutgers Geography Graduate Program Curricular Statement

Rutgers Geography Graduate Program Curricular Statement

The curriculum of the Rutgers Geography Graduate Program is designed to fulfill a number of pedagogical goals aimed at training advanced research students to develop empirically rigorous, conceptually grounded, and practically transformative projects oriented toward producing a more sustainable and just future. This includes learning the history of the discipline and the methods and theories it has used to examine the Earth's landscape, human and natural transformations of that landscape, and the social and human– environment relations that emerge from these processes. The curriculum provides in-depth training in methods of spatial analysis and a systematic introduction to theories of explanation used to understand social and biophysical causes and consequences of geographical change, as well as the meanings derived from them.

An additional core focus of the Geography Graduate curriculum is the evaluation, review, and critique of past and present epistemologies and conventions of geographical inquiry. This includes examining why a particular theory, method, or perspective persisted or dominated, and what blind spots, biases, or forms of violence, exclusion, or erasure they have enabled historically and continue to enable today. The curriculum also interrogates how have geographical theories, methods, or perspectives emerged through past and present forms of coloniality in its many manifestations. Central questions include what counts as valuable knowledge or ways of knowing in the discipline, who makes those decisions, and whose voices are excluded in the process. The program explores how innovative, non-normative, or radical techniques, theories, or collaborations can transform Geography into "a practice of freedom," to borrow from bell hooks' (1984) theory of education in *Teaching to Transgress*.

Being a geographer means developing a critical self-awareness of how one moves through the world and the implications of those movements for the human and non-human entities with which one is connected. It involves seeing how conventions or traditions of movement—driving to work, residing in a white neighborhood, living in a settler state—normalize and reproduce unequal systems of benefit and harm. The geography faculty is committed to fostering each graduate student's journey by tailoring the course of study to the scholarly and social commitments that students bring, with the goal of transforming those commitments into powerful tools for discovery and for positive societal and environmental change.

Practically, this commitment takes the form of substantial curricular flexibility, with only two required courses for all students. It also entails a commitment to equity, diversity, inclusion, and belonging in Geography, which we seek to model through relations of mutuality, respect, and care in teaching, research, and advising. At the same time, we recognize that this is hard work—it is an active process that we can rarely fully live up to—and that it alone is insufficient to encompass the healing and justice-oriented efforts necessary to confront the racial system of which we are a part.

As a Geography Graduate Program, we commit to this difficult and collaborative work by dedicating ourselves to an interrogation of classroom spaces and enacted pedagogies: Are they equitable? Are they anti-racist? Enacting an anti-racist pedagogy is more than adding diverse content to a course or curriculum, important as that work is. Rather, it is "about how one teaches, even in courses where race is not the subject matter" (Kishimoto 2018). Anti-racist pedagogy is a "paradigm located within critical theory utilized to explain and counteract the persistence and impact of racism using praxis as its focus to promote social justice for the creation of a democratic society in every respect" (Blakeney 2011).

The two core courses for all Rutgers Geography graduate degrees—601, *Geographic Perspectives*, and 602, *Research Design*—are designed to provide a shared foundation through which students and faculty can collaboratively engage in this constructive project. These are courses designed with input from the Graduate Curriculum Committee, which includes one graduate student representative. 601 offers a critical introduction to the history and theory of the discipline, examining how Geography has understood, misunderstood, or might better understand human–environment relations. 602 introduces students to different approaches to geographical explanation, attending to how epistemology and theories of change conceal or make visible specific relations and structures, and it asks how geographers can harness both existing and emergent methods of analysis to geographically diagnose the conditions in which we live.

Our project of making a better Geography, though, takes place most intensely within the shared culture of practice in which we all participate: in department meetings and seminars, in admissions and hiring decisions, and in informal meetings, greetings, and learning activities of everyday academic life. We commit to a mutual process of learning as a necessary step toward environmental and societal repair.

References:

Blakeney, A. 2011. Antiracist Pedagogy: Definition, Theory, and Professional Development.

hooks, b. (1994). *Teaching to Transgress: Education as the Practice of Freedom. Routledge.*

Kishimoto, K. (2018). Anti-racist pedagogy: From faculty's self-reflection to organizing within and beyond the classroom. *Race, Ethnicity, and Education* 21(4): 540-554.

Prepared in January 2021, Updated in January 2026

Earth and Planetary Sciences 460 (SGS-EPSCI)

EARTH AND PLANETARY SCIENCES 460

Degree Programs Offered: M.S., Ph.D.

Please visit the Earth and Planetary Sciences website.

Guide to the Graduate Program in Earth and Planetary Sciences

The recent name change of our Graduate Program from Geological Sciences to Earth and Planetary Sciences (EPS) reflects a renewed and expanded planetary component, in addition to our traditional strengths in fundamental Earth and planetary sciences. Our graduate program is designed to provide a challenging yet supportive educational atmosphere that encourages independent and critical thinking, the development of communication and teaching skills, and the pursuit of creative and original research. Our goal is to teach students to formulate testable hypotheses, collect data to test them, and publish their results. The Program's intent is to educate and train competent and technically adept geoscientists for careers in research, teaching, and service in higher education, government, industry, and non-governmental organizations. We strongly encourage interdisciplinary research with other physical, biological, chemical, anthropological, mathematical, and engineering sciences to provide the student with the broadest possible means to explore the limits of knowledge about the Earth and planetary sciences.

Program Description

Students admitted to the EPS Graduate Program join an active department that offers challenging instruction in an unusually diverse research environment. The Program grants both Ph.D. and M.S. degrees to full- and part-time students. Nearly all full-time Ph.D. students are supported by fellowships, teaching assistantships (TAs), and/or research grants (GAs). Extramural grants provide students with additional support for study and research during the school year and summer. Grants, department funds, and Rutgers School of Graduate Studies (SGS) resources help support participation in regional, national, and international conferences.

The Graduate Program offers a diverse range of potential areas of study. We offer a broad range of research projects, led by a diverse and world-renowned faculty. Graduate student research projects can take full advantage of the region's diverse geology and also be part of numerous ongoing research projects worldwide. Shared faculty,

research, and facilities with Rutgers' Departments of Marine and Coastal Sciences, Anthropology, and Environmental Sciences, the Rutgers Energy Institute, and the Rutgers Institute of Earth, Ocean, and Atmospheric Sciences offer additional means of study and research possibilities, along with ties to the Departments of Geography, Chemistry, Physics, Ecology, Evolution, and Natural Resources. Facilities at Lamont-Doherty Earth Observatory (LDEO), Woods Hole Oceanographic Institution, Princeton University, and the American Museum of Natural History are among the numerous research resources in the northeast US. In addition to coursework at Rutgers, students can take advantage of listings at nearby Princeton and LDEO/Columbia universities.

The Graduate Program is overseen by the Graduate Advisory Committee (GAC), chaired by the Graduate Program Director (GPD), in accordance with the bylaws of the Graduate Program in EPS, and reports to the School of Graduate Studies (SGS). Graduate students are encouraged to discuss questions with the GPD, other members of the GAC, and staff support (currently, Katanya Meyers is the staff person assisting with the graduate program). We are here to help.

Full Graduate Faculty

Karen Bemis, Ph.D., Rutgers

Katherine Bermingham, Ph.D., Westfalische Wilhelms-Universitat

Kay Bidle, Ph.D., California (San Diego)

Benjamin Black, Ph.D., Massachusetts Institute of Technology

Anthony Broccoli, Ph.D., Rutgers

James Browning, Ph.D., Rutgers

G. Charles Dismukes, Ph.D., Wisconsin

Paul Falkowski, Ph.D., British Columbia

Craig Feibel, Ph.D., Utah

Mark Feigenson, Ph.D., Princeton

Linda Godfrey, Ph.D., Cambridge (UK)

Sean Kinney, Ph.D., Columbia

Robert Kopp, Ph.D. California Institute of Technology

Kenneth Miller, Ph.D., Massachusetts Institute of Technology/Woods Hole

Richard Mortlock, Ph.D., Rutgers

Gregory Mountain, Ph.D., Columbia

Lauren Neitzke Adamo, Ph.D., Rutgers

Lujendra Ojha, Ph.D., Georgia Institute of Technology

Crystal Pletka, Ph.D., Florida International

John Reinfelder, Ph.D., SUNY (Stony Brook)

Ying-Fan Reinfelder, Ph.D., Utah

Asa Rennermalm, Ph.D., Princeton

David Robinson, Ph.D., Columbia

Yair Rosenthal, Ph.D., Massachusetts Institute of Technology/Woods Hole

Roy Schlische, Ph.D., Columbia

Silke Severmann, Ph.D., Southampton

Robert Sherrell, Ph.D., Massachusetts Institute of Technology/Woods Hole

Carl Swisher III, Ph.D., California (Berkeley)

Brent Turrin, Ph.D., California (Berkeley)

Costantino Vetriani, Ph.D., Rome (Tor Vergata)

James Wright, Ph.D., Columbia

Nathan Yee, Ph.D., Notre Dame

Associate Graduate Faculty

Marie-Pierre Aubry, D.Sc., Universite Pierre et Marie Curie

Peter Sugarman, Ph.D., Rutgers

M.S. Degree Requirements

M.S. Degree Requirements

The Master's degrees in Earth and Planetary Sciences is designed to provide an educational environment to encourage students to become competent and technically adept Earth and planetary scientists who wish to pursue a career in education, industry, government, non-governmental organizations, or the service sector. The program also serves to lay a solid foundation for those students who desire to continue on with advanced graduate studies toward the Ph.D. degree either at Rutgers or at another institution.

The conventional and "4+1" tracks of M.S. degree require 24 credits of course work and 6 credits of research. The Environmental Geosciences track requires 27 course and 3 research credits and completion of an internship. In addition to course work, the conventional and "4+1" tracks require a short-written thesis proposal entailing the specifics and goals of the intended research thesis. The M.S. degree is granted following completion of the written thesis (conventional) or capstone paper ("4+1" and Environmental Geoscience tracks), approved by the Thesis Advisor and Thesis Committee, and completion of a successful open departmental oral defense.

In most cases, the student who had been admitted with a B.A. or a B.S. with no major deficiencies will complete his/her M.S. within 2 full academic years (24 months) depending upon the area of study. The student must file an application for a diploma (obtained from the Registrar) before April 1 preceding the May Commencement or October 1 for an October dated degree and January 2nd for a January-dated degree. To file this application, the thesis or capstone needs to be presented and signed as complete.

Earth and Planetary Sciences 460 (SGS-EPSCI)

Ph.D. Degree Requirements

Ph.D. Degree Requirements

The Ph.D. degree in Earth and Planetary Sciences requires 72 credits overall by state mandate; a minimum of 24 course and 24 research credits are required – the remaining 24 credits can be either course or research credits to be decided by the student's research committee. To successfully advance to Ph.D. candidacy, the student must 1) pass a qualifying exam and 2) prepare, orally present, and defend a written Dissertation Proposal. For completion of the Ph.D., the candidate must complete a comprehensive written dissertation and successfully present and defend an open presentation of the dissertation.

In most cases, the student who has been admitted with a B.A. or a B.S. degree in Earth and planetary sciences or related fields, with no major deficiencies, will complete their Ph.D. within 5 academic years. The normal maximum time allowed by the Graduate School is 7 years (including time for a masters degree if the masters is done at Rutgers). The student must file an application for a diploma (obtained from the Registrar) before April 1 preceding the May commencement or Sept. 1 preceding the Oct. commencement in the proposed year of graduation. To file this application, the dissertation needs to be presented and signed as complete.

Earth and Planetary Sciences 460 (SGS-EPSCI)

Course Descriptions

Course Descriptions

16:460:501 (S) ***Economic Geology (3)***
Geochemistry of hydrothermal ore deposits, including studies of alteration, ore mineral solubility, fluid inclusions, mass transfer, and stable and radiogenic isotopes.
Prerequisite: 01:460:401 or 402 or equivalent.

16:460:503 (F) ***Studies in Paleontology (3)***
Topics include methods and case studies in systematics, evolution and extinction, paleogeography, paleoclimate, and other topics of current interest. Emphasis on the relationship between geological and biological processes.
Prerequisite: 01:460:303 or equivalent.

16:460:505 ***Sedimentary Geology (3)***
Topics of current interdisciplinary research in sedimentary geology. Sequence stratigraphy, facies models, sea-level change, unconformities/hiatuses, tectonics, climate change, cyclicity, evolution, mass extinctions.
Prerequisite: 01:460:341.

16:460:506 (S) ***Structure and Formation of the Earth (3)***
Topics of current research on the internal structure of the Earth: mantle structure, phase changes, seismic discontinuities, trace-element/isotopic properties, mineral physics, core formation, meteorites, moons, and asteroids.
Prerequisites: 01:460:302, 307, 401, or permission of instructor.

16:460:507 (S) ***Geodynamics (3)***
Applications of continuum mechanics and thermodynamics to processes within the Earth and other rocky planets. Topics include crust and mantle deformation, mantle and core convection, plate tectonics, the origins of earthquakes and volcanoes, and other current research topics in geophysics.
Prerequisites: 01:640:151 Calculus I, and one of the following: 01:750:193 Physics for the Sciences or 01:750:201 Extended General Physics, or 01:750:203 General Physics

16:460:508 (F) ***Mineral Phase Relations (3)***
Free-energy diagrams and phase diagrams, equilibrium and kinetics, nucleation theory, undercooling, diffusion. Major groups of rock-forming minerals; comparison of laboratory data and theoretical models with assemblages, compositions, and morphologies actually observed in slowly cooled and rapidly cooled rocks.
Prerequisite: 01:460:302.

16:460:511 (S) ***Petrology (3)***
Basic principles of thermodynamics applied to solid-solid and solid-liquid equilibria in silicate systems; igneous and metamorphic processes that have structured the petrology of the Earth's crust and mantle over time.
Prerequisites: 01:460:301, 302, or equivalent.

16:460:512 ***Metamorphic Petrology (3)***
Principles of thermodynamics applied to the stabilities of mineral assemblages in metaigneous and metasedimentary rocks of the Earth's crust, fluids in the crust, metamorphism, and plate tectonics.
Prerequisites: 01:460:301, 302, or equivalent.

16:460:513 ***Volcanology (3)***
Geologic settings of volcanoes; geophysical and geochemical constraints on the origin of magmas; energetics and periodicity; volcanoes and earthquakes; eruption mechanisms; volcanic hazards and prediction; geothermal power and volcanogenic ore deposits.
Prerequisite: 01:460:302 or equivalent.

16:460:514 ***Depositional Environments (3)***
Examination of classic depositional environments, with emphasis on using modern analogues to interpret the geologic record. Sedimentary structures; cyclic sediments; facies models. ***Prerequisite: 01:460:340 or equivalent.***

16:460:515 ***Advanced Tectonics (3)***
Plate tectonic theory; quantitative analysis of plate motions on a sphere; use of paleomagnetism and seismology in tectonics; causes of plate motion. Withjack.
Prerequisites: Structural geology; two semesters of calculus.

16:460:519 ***Mesozoic-Cenozoic Stratigraphy (3)***
Study of the Mesozoic-Cenozoic stratigraphic sequences in different basinal settings and their relationship to tectonic history.
Prerequisite: 01:460:305.

16:460:526 ***Paleoceanography (3)***
Paleoecology, paleoclimatology, and paleogeography of marine microfossils; study of major paleoceanographic events and their relationships to stratigraphy and sedimentary facies. ***Prerequisite: Paleontology.***

16:460:528 (F) ***Groundwater Modeling (3)***
Modeling of groundwater flow and associated mass/energy transport. Real examples are used to formulate a correct mathematical statement of the problem; numerical models are applied for the solution.
Prerequisite: 01:460:428 or equivalent.

16:460:541 ***Marine Geology (3)***
Structure and evolution of ocean basins, continental margins, and marine sediments.
Prerequisite: 01:460:341 or equivalent or permission of instructor.

16:460:551 ***Isotope Geochemistry (3)***
Studies of stable and radiogenic isotopes in the Earth's mantle and crust. The use of isotopes in age dating, source tracing, and geothermometry.
Prerequisite: 01:460:401 or equivalent.

16:460:553 ***Paleomagnetism (3)***
Applications of geomagnetism and paleomagnetic techniques to geological and geophysical problems. Topics include the modern geomagnetic field, secular variation, the Earth's dynamo, rock magnetism, paleomagnetic studies, geomagnetic reversals, magnetostratigraphy, paleointensity variations, apparent and true polar wander, environmental magnetism, and magnetic proxies of climate change.
Prerequisite: 01:460:412 or equivalent.

16:460:555 ***Geophysics I (3)***
Theory and application of seismic refraction, seismic reflection, deep-earth seismology, surface waves, and heat flow. Collection and interpretation of seismic data. Levin.
Prerequisites: 01:460:307, 01:640:252, 01:750:204, or permission of instructor.

16:460:557 ***Seismic Acquisition (3)***
Seismic fundamental stratigraphy: topics include seismic fundamentals, interpretational pitfalls, well logs, rock properties, and sequence stratigraphy. Students learn how to use 2D and 3D seismic data to define the geologic environment and history, including the timing and style of

16:460:561 ***Studies in Micropaleontology (3)***
Paleoecology and biostratigraphy of foraminifera; identification and interpretation of microscopic organic remains in rocks and sediments.
Prerequisites: 01:460:303, 341.

16:460:571 ***Climate Change Risk Analysis (3)***
Science, economics, and public policy of climate change risks. Extreme events, sea-level rise, agriculture, energy, health, labor, crime and violence, supply chain disruptions, ecosystem services, tipping points. Global and regional climate modeling, integrated assessment modeling, decision-making under uncertainty, and with long time horizons. Climate change adaptation and resilience.

16:460:601,602 ***Advanced Studies in Geology (BA, BA)***

16:460:610 ***Writing in the Geosciences (BA)***
This course is designed to help students develop scientific writing skills while learning how to communicate scientific, particularly geologic, information effectively. All stages of the writing process, from planning to submission, will be covered.

16:460:611 ***Seminar in Geology (BA)***
Special topics are chosen each semester. The course may be taken more than once.

16:460:612 ***Graduate Research Seminar (1)***
Presentation and discussion of current topics in geosciences, and faculty- and student-led group discussions on topics of professional development (some examples: paper authorship, reviewing papers and proposals, writing proposals, ethics and scientific fraud, funding, and news about science).

16:460:613 ***Seminar in Earth Magnetism (BA)***
Discussion of current research topics/published studies pertaining to paleomagnetism.

16:460:614 ***Seminar in Seismic Stratigraphy (BA)***
Discussion of current research topics/published studies pertaining to seismic stratigraphy.

16:460:615 ***Seminar in Paleoceanography (BA)***
Discussion of current research topics/published studies pertaining to paleoceanography.

16:460:616 ***Seminar in Volcanology (BA)***
Discussion of current research topics/published studies pertaining to volcanology.

16:460:617 ***Seminar in Geochronology (BA)***
Discussion of current research topics/published studies pertaining to geochronology.

16:460:618 ***Seminar in Ocean Ridge Processes (BA)***
Ocean ridges as the largest and most dynamic geological features on Earth, including tectonic, magmatic, and hydrothermal processes, and the global role of ridges in chemical and thermal exchange, chemosynthesis at vent ecosystems, mineralization, plate reorganizations, and eustatic changes of sea level through time.

16:460:619 ***Seminar in Chronostratigraphy (BA)***

16:460:621 ***Seminar in Geochemistry (BA)***

16:460:622 ***Seminar in Extensional Tectonics (BA)***
Current topics in rifting, passive-margin development, and normal-fault systems.

16:460:624 ***Seminar in Micropaleontology (BA)***

16:460:625 ***Seminar in Sequence Stratigraphy (BA)***

16:460:626 ***Seminar in Seismology (BA)***

16:460:628 ***Seminar in Geomicrobiology (BA)***
Topics of current research at the intersection of geology and microbiology. Microbe-mineral interactions, biomineralization, chemical weathering, and biogeochemical

16:460:629 (S) ***Seminar in Earth System Science (BA)***
Discussion of current research topics/published studies pertaining to Earth system science.

16:460:632 ***Seminar in Applied Cosmochemistry and Geochemistry (BA)***
Applications of cosmochemistry and geochemistry will be discussed, including lab work, instrumentation, and sample science.

16:460:630 (S) ***Seminar in Planetary Science (BA)***
Current topics in Earth and planetary sciences will be discussed, including the evolution of the planets, satellites, and materials that comprise our planet and solar system.

16:460:655,656 (F,S) ***Research Colloquium (1,1)***
Students attend weekly lectures by visiting scientists on current research in geosciences; one or more papers are required on one or more of the topics covered.

16:460:701,702 ***Research in Geology (BA, BA)***

German 470 (SGS-GERMAN)

GERMAN 470

Degree Programs O◈ered: M.A./M.A.T./Ph.D.

Visit the German department website.

Internationally recognized for its cutting-edge research and teaching, the German Department at Rutgers has undergone a remarkable transformation in recent years: We emphasize interdisciplinary modes of inquiry and foster excellence in research and pedagogy at all levels of instruction. Our internationally recognized faculty offers a wide range of expertise in German intellectual history from the 18th to the 20th century; the Age of Goethe; Romanticism; Realism; German Jewish Studies; film and media studies; psychoanalysis; gender studies; 20th century avant-gardes; Frankfurt School; Holocaust studies and the poetics of witnessing; 21st century literature, pop literature, and contemporary German theater. Faculty research is complemented by regular distinguished visiting professors and scholars-in-residence. Our graduate students cover a wide range of topics in their classes, and this variety is reflected in the breadth of their dissertations, which combine ethnography, postcolonialism, hybridity, visual culture, and the fluidity of gender roles with the analysis of literary texts. Students regularly host conferences; their foci in recent years have included “Ecstasy – Ekstase - Rausch,” “Shock,” “Apocalyptic Narratives,” “Economic HiStories,” and “Intermediality”; they invite fellow graduate students from neighboring universities in order to foster exchange and collaborations; they participate at the Festival for New Literature, an event that brings

together Swiss, German, and Austrian writers of contemporary fiction with American audiences; and they have made good use of Rutgers' membership in the Inter-University Doctoral Consortium, building their network to faculty at Princeton, Columbia, NYU and the University of Pennsylvania.

Faculty

Nicola Behrmann, Ph.D., New York University

Belinda Davis, Ph.D., Michigan (Ann Arbor)

Anette Freytag, Ph.D., Swiss Federal Institute of Technology (ETH Zurich)

Paul Hanebrink, Ph.D., Chicago

Martha Helfer, Ph.D., Stanford

Regina Karl, Ph.D., Yale

Michael Levine, Ph.D., Johns Hopkins

Nicholas Rennie, Ph.D., Yale

Jeffrey Shandler, Ph.D., Columbia

Dominik Zechner, Ph.D.,, New York University

German 470 (SGS-GERMAN)

Degree Requirements

Degree Requirements

Ph.D. Requirements

A minimum of 48 credits in course work with a G.P.A. of 3.5 or better and a minimum of 24 credits in research, for a total of 72 credits. Not more than six credits may be earned in Independent Study courses (16:470:601 or 602). No more than four courses (12 credits) may be transferred for prior graduate work done at another institution. M.A. students are strongly encouraged, and Ph.D. students are required to take one literary theory course (the latter must be approved by the Graduate Director if it is outside the German Department).

- Demonstrated proficiency in a foreign language by successful completion of a foreign language examination (offered 4 times a year).
- At the department's discretion, students may be required to take extra language courses in order to attain the necessary level of fluency.
- Successful completion of the written and oral qualifying examinations.
- A doctoral thesis.
- Successful defense of the thesis.

The 30 credits taken toward a Rutgers M.A. or the maximum of 12 transfer credits are included in the 48 course credits towards a Ph.D. For transcripts from a foreign university, please consult the Graduate Director (a special form on the School of Graduate Studies' website must be completed listing the four courses and their Rutgers equivalents and submitted to the School of Graduate Studies via the Graduate Director).

Once admitted to Ph.D. candidacy, registration for research credits is required until completion of the dissertation. Students who live near campus (i.e. within the metropolitan area New Jersey, New York, Pennsylvania) are required to register for three research credits per semester. Students not living near campus are required to register for one research credit per semester. The maximum load of research credits is 12 credits per term.

The Ph.D. Qualifying Examination. A successful examination requires the signatures of four faculty members. Three faculty members must be members of a student's graduate program. The fourth faculty member may be either a member of the student's graduate program or an outside member.

M.A. Requirements

- A minimum of 30 credits in course work, six of which may be devoted to a research problem if the candidate elects to write a thesis. Not more than three credits may be earned in Independent Study courses (16:470:601 or 602).
- A G.P.A. of 3.4 in course work.
- Successful completion of the written M.A. examination.
- At the department's discretion, students may be required to take extra language courses in order to attain the necessary level of fluency.

M.A.T. Requirements

The needs and background of the student will frame the individualized plan of study for the M.A.T. A candidate is expected to complete a total of thirty credits - twenty-seven credits of regular course work and the three remaining credits dedicated to the development of an individual teaching portfolio based upon course work. No written comprehension examination will be required. Instead, the teaching portfolio will be used to assess the student's comprehensive grasp of the program's goals. With the approval of the Graduate Program Director, students may opt to complete an additional 3-credit graduate course in lieu of the teaching portfolio. The School of Graduate Studies' writing requirement will be met by means of at least one substantial term paper, a copy of which must be provided to, and approved by, the Graduate Director. At the department's discretion, students may be required to take extra language courses in order to attain the necessary level of fluency.

Teaching Portfolio

Each student will prepare and present a teaching portfolio, a three-credit individual project, in the academic year following the completion of the twenty-seven credits of course work. This teaching portfolio, which will reflect the student's course work, will be a compendium of documents, lesson plans, and teaching materials pertinent to the work situation (teaching level, class focus, particular school system, etc.) of each candidate.

The Graduate Director, in consultation with the student, will form an advisory committee to mentor the student and foster the completion of the teaching portfolio. Each committee will consist of at least three members or associate members of the department's graduate faculty, or of at least two from within the department and one non-program

member, according to the standards of the School of Graduate Studies. The student will make a formal presentation of the work submitted for this degree requirement only after the advisory committee has approved the teaching portfolio.

Course Distribution

- 6 credits in methodology or praxis of teaching (minimum of 3 credits within the department; 3 credits may be taken through the Rutgers World Language Institute).
- 6 credits in culture/civilization, including German film.
- 6 credits in German literature/teaching of German literature.
- 6 credits in German Studies (extra-departmental).
- 3 credits in an elective (departmental).
- 3 credits in Teaching Portfolio.
- In some cases, an Independent Study may be possible.

German 470 (SGS-GERMAN)

Course Descriptions

Course Descriptions

Graduate Courses

16:470:501 ***The Teaching of College German (3)***
Introduction to the nature of language acquisition; critical examination of instructional materials; principles of cultural analysis; and theory and practice of teaching literature. Patterned to the practice of college instruction.

16:470:502 ***Teaching Apprenticeship in German (N1.5)***
Weekly workshops for teaching, testing, and evaluation techniques in elementary and intermediate language courses. Observation of language classes.

16:470:510 ***Literary Theory and Methodology (3)***
Study and practice of scholarly techniques, the use of secondary literature for research, the writing of papers, and an overview of literary theories.
Behrmann, Helfer, Karl, Levine Rennie. Recommended during the first year.

16:470:513 ***Analysis of Literary Texts (3)***
Study of selected works of poetry, drama, and prose with a view to increasing a teacher's faculties of literary interpretation and aesthetic judgment.

16:470:516 ***Introduction to Middle-High German (3)***
Phonology and grammar. Reading of representative texts from the Middle-High German period AD 1050 to AD 1350, with special emphasis on the popular epic, court epic, and Minnesänger.
Pichugin

16:470:520 ***Literature of the Middle Ages (3)***
Analysis of the folk epic (Nibelungenlied) and its sources; the courtly romances by Hartmann von Aue, Wolfram von Eschenbach, and Gottfried von Strassburg; the saint's legend and poems by prominent Minnesänger.
Pichugin

16:470:521 ***Literature of the Renaissance, Reformation, and Baroque (3)***
Sociohistorical overview of German literature of the 16th and 17th centuries.
Rennie

16:470:522 ***From Rococo to Classicism (3)***
Literature of the 18th century with emphasis on Anakreontik, Sturm und Drang, and theWeimarer Klassik, focusing mainly on contemporaries of Goethe and Schiller.
Rennie

16:470:523 ***German Romanticism (3)***
Aims and characteristics of the romantic movement as reflected in the works of Hölderlin, Novalis, Kleist, Brentano, Eichendorff, and Hoffmann.
Helfer

16:470:524 ***Nineteenth-Century Realism (3)***
Studies in the theory, themes, and styles of German literary realism in the 19th century, focusing on the works by Büchner,
Hebbel, Stifter, Keller, Meyer, Storm, and Fontane.
Behrmann, Helfer

16:470:525 ***Literature of the 20th Century before 1945 (3)***
Study of significant literary works and trends against the background of late Wilhelminian Germany, the Weimar Republic, and the Nazi era.
Behrmann, Karl

16:470:526 ***Literature of the 20th Century after 1945 (3)***
Study of German writers after World War II, including Bernhard, Borchert, Böll, Dürrenmatt, Frisch, Grass, Handke, Hochhuth, Johnson, Lenz, Strauss, Walser, and Weiss.
Behrmann, Karl

16:470:550 (S) ***Kafka (3)***
Kafka's parables, short stories, novels, diaries, and correspondence, with a particular focus on questions of translation, intertextuality, gesture, and the relationship between writing and the body.
Levine

16:470:555 (F) ***Benjamin, Scholem, Arendt (3)***
Examines three towering figures of 20th-century thought: Walter Benjamin (1892-1940), Gershom Scholem (1897-1982), and Hannah Arendt (1906-1975).
Levine

16:470:601,602 ***Independent Study in Germanic Languages and Literatures (3,3)***
Independent study or directed research. Intended for exploring areas not covered in depth by regularly scheduled courses.
Prerequisites: Permission of instructor and approval of graduate director.

16:470:610 ***Old Norse Literature (3)***
Principal genres of saga literature; Eddic and Scaldic poetry.

16:470:611 ***Courtly Poetry and Medieval Drama (3)***
Major lyrics of the Minnesang and its later developments. The Latin and romance origins of German lyric poetry. Selected dramas from the 13th to the late 15th centuries.

16:470:622 ***The German Enlightenment (3)***
The concept and question of German Enlightenment, especially as it relates to modernity. Readings by Leibniz, Kant, Mendelssohn, Gottsched, Bodmer, Lessing, Klopstock, Wieland, and Gellert.
Rennie, Helfer

16:470:625 ***Goethe (3)***
Study of Goethe's poetry, drama, and prose, focusing on three major areas: works of the Storm and Stress, works of Goethe's classical period, and the "Alterswerk," including Faust.
Rennie, Helfer

16:470:626 ***Faust in German Literature (3)***
The Faust tradition from biblical days to contemporary German literature. Emphasis on the Volksbuch, the Faust theme in the Storm and Stress period, Goethe's Faust, and Faust's works of the 20th century.
Rennie

16:470:627 ***Schiller (3)***
Schiller's development as an author through detailed study of his prose, poetry, and plays, including Die Räuber, Kabale und Liebe, Don Carlos, and Wallenstein.
Helfer

16:470:632 ***Heine and His Contemporaries (3)***
Development of German literature of the 19th century in the context of social and political change brought about by the end of feudalism and the rise of industrialism in the period 1813 to 1849.
Levine

16:470:642 ***The Expressionist Movement (3)***
German expressionism from its early prewar phase to the mid-1920s, with emphasis on its philosophical foundations, sociopolitical aims, and poetic styles. The poets Benn, Heym, Stadler, Stramm, and Werfel; the dramatists Goering, Hasenclever, Kaiser, Sorge, Sternheim, and Toller.
Behrmann

16:470:645 ***Contemporary Germany (3)***
Study of modern Germany with consideration of pertinent cultural, historical, political, geographical, and sociological factors and their impact on contemporary literary life.
Karl, Levine

16:470:646 ***Postwar German Film (3)***
Study of feature films in German after 1945; issues of guilt, remembrance (and its counterpart--amnesia), gender, Heimat or "homeland," national self-fashioning, and trauma. How is the category of nation constructed and how is it contested within the narratives themselves? Close attention to aesthetic issues and the concept of authorship.
Karl

16:470:650 ***Lyrical Poetry from the Middle Ages to the Present (3)***
Study of significant poets, with special emphasis on the development of literary movements and the intellectual background of the times.
Behrmann, Levine

16:470:651 ***German Drama from the Baroque to the Present (3)***
Readings of selected plays with background studies in the theory and historical development of the drama.
Karl, Levine, Rennie

16:470:652 ***Short Forms of German Prose (3)***
Short prose forms such as the Anekdote, Skizze, Novelle, Erzählung, and Kurzgeschichte. Historical, theoretical, and analytical approaches to representative works.
Behrmann, Karl

16:470:653 ***The German Novelle (3)***
Development of the Novelle as a specific German narrative form and as an expression of social, philosophical, and metaphysical viewpoints.
Behrmann, Helfer

16:470:654 ***The German Novel (3)***
Development of the novel as a literary genre in German literature. Emphasis on European influences, the novel and the court, the rise of the bourgeoisie, women and writing, and theory of novel.
Behrmann, Rennie

16:470:660 ***Austrian Narrative of the 19th and 20th Centuries (3)***
Comparative study of representative works that use various narrative techniques. Special emphasis on the end of the Dual Monarchy, the emergence of Austrofascism and National Socialism, and the period after 1945.
Rennie

16:470:661 ***Folklore in German Literature (3)***
Archetypal patterns, motifs, figures in folklore, Sage, folksong, hagiography, and sources in pagan and biblical tradition as a basis for study of adaptations and interpretations in literary works of various genres and periods to the present.

16:470:662 ***German Feminist Writers (3)***
The rise of literary feminism and an analysis of writings by authors such as Bachmann, Mayröcker, Jelinek, and Wolf.
Behrmann, Helfer, Karl

16:470:663 ***Literature and Ideology (3)***
Study in the history of ideas, dealing specifically with the conflict of ideologies in varying periods of German culture as expressed in the works of such authors as Gottfried von Strassburg, Luther, Gryphius, Goethe, Büchner, Nietzsche, Wagner, and Brecht.
Behrmann, Levine, Rennie

16:470:670,671,672,673 ***Topics in German Literature I,II,III,IV (3,3,3,3)***
Special topics devoted to the investigation of a single author, text, critical or philosophical problem, theme or motif, historical period, film, or development.

16:470:701,702 ***Research in German (BA,BA)***

Global Sports Business 475 (SGS-GSB)

GLOBAL SPORTS BUSINESS 475

For more information, please see the Graduate Programs page on the School of Graduate Studies website.

Degree Programs Offered: M.S.

Please visit the Global Sports Business website.

Faculty

Mark Beal, B.A., Rutgers; M.A., Kent

Arthur Berke, B.S., Indiana

Andrew Bondarowicz, B.A., M.A., J.D., Rutgers

Sam Caucci

Jamie Cosloy

Kadeer Porter

Joseph Ricciutti, B.S., Staten Island; M.F.A., Columbia

Sammy Steinlight, B.S., Massachusetts

Kathleen Torres

Degree Requirements

Degree Requirements

For more information, please see the Graduate Programs page on the School of Graduate Studies website.

Course Descriptions

Course Descriptions

16:475:511 ***Sports Administration: Global Human Rights***
Prepares students in the analysis of administration, governance, decisions and challenges facing sport administrators and business leaders. Attention is given to the regulation of professional and amateur athletics, the organizational structure of sports leagues and associations.

16:475:512 ***Sports Leadership and Ethics***
This course introduces: personal, interpersonal, and team-based competencies required in leadership roles. Including: self-awareness, managing stress, creative problem solving, communicating effectively, gaining power, influencing others, managing conflict, and delegation.

16:475:513 ***Finance and Strategic Planning in Sports***
The financial perspective of a sports organization: economics, overall operations, employee relations, stadium financing, event management, facility management, fan support, acquisition, and government relations.

16:475:514 ***Sports Media and Popular Culture***
This course will critically examine the changing relationship between sports and the many tentacles of the sports media to help students understand its importance in the industry.

16:475:521 ***Employment Relations in Sports***
This course will provide an in-depth study of labor and employment relations related to teams, leagues, staff and athletes in amateur, college, and professional sports.

16:475:522 ***Sales and Revenue Generation in Sports Management***
Examines the elements of an effective sales force as a key component of an organization's total marketing effort. Extends student’s understanding of marketing's reach, potential and impact in achieving its overarching goals.

16:475:523 ***Organizational Strategy in Sports***
The fundamental components of business strategy examining theories applied in executive decision making. Organizational strategy, concepts and cases drawn from corporate examples. Strategic management as practiced in the sports industry.

16:475:524 ***Sports Marketing: Advanced and Entrepreneurial Planning***
Concepts and methods essential to identifying and analyzing marketing threats and opportunities; developing and evaluating marketing strategies. Special attention is given to market structure analysis, segmentation, positioning, and global market extension. This course also introduces: personal, interpersonal, and team-based competencies required in leadership roles. Including: self-awareness, managing stress, creative problem solving, communicating effectively, gaining power, influencing others, managing conflict, and delegation.

16:475:531 ***Issues in Sports Business: Cultural Change and Conflict Resolution***
This course applies conceptual knowledge to contemporary sports issues, providing behavioral skills training with an in-depth examination of cross-cultural differences, change, and conflict resolution techniques emphasizing ethical leadership approaches.

16:475:532 ***Facilities and Event Management in Sports***
This course explores the myriad of challenges surrounding event and facility planning. Providing an in-depth examination of essential techniques to deliver memorable events while coordinating safety, spectator and facility systems.

16:475:533 ***Sports Law***
This course offers an examination of key legal concepts inherent to the sports industry with emphasis on antitrust, contract law, agency, torts and liability, etc. and their application.

16:475:534 ***Value Creation in Sports through Branding and Sponsorship***
This course will cover theory, methodology and application surrounding how sports brands and properties leverage marketing communications, branding and sponsorship to generate value and revenue for their businesses.

16:475:545 ***Executive Residency***
In the final semester, students will participate in an executive training program where they will get hands-on experience in the field of their choice.

Higher Education 507 (SGS-HIGHERED)

HIGHER EDUCATION 507

See the Ph.D. Program page in the Graduate School of Education section of this catalog.

History 510 (SGS-HIST)

HISTORY 510

Degree Programs Offered: M.A., Ph.D.

Graduate Program Director: Professor Jochen Hellbeck, 217A Van Dyck Hall, College Avenue Campus, hellbeck@history.rutgers.edu

Director, Global and Comparative History Master's Degree Program: Professor Johan Mathew, 106 Van Dyck Hall, College Avenue Campus, jm2048@history.rutgers.edu

Please visit the Department of History website.

Program Description

The Department of History at the School of Arts and Sciences, Rutgers-New Brunswick provides outstanding academic opportunities for advanced study leading to the M.A. and Ph.D. degrees. These programs are driven by a distinguished faculty whose interests and courses cover almost every period and area of study. The department is particularly noted for its strengths both in traditional regional specialties (the histories of the U.S., Europe, Latin America, Africa, Asia and the Middle East) and in thematic, transnational and comparative fields, including the history of Atlantic cultures and the African diaspora; women's and gender history; social and cultural-intellectual history; African-American history; comparative and global history; the history of science, technology, environment,

and health; and Global Asias. Recent surveys of history graduate programs by *U.S. News and World Report* have consistently ranked our programs in women's and gender history and African-American history as among the very finest in the nation.

The key objective of the doctoral degree program in History at Rutgers-New Brunswick is to impart rigorous training for innovative research, publication in professional forums, and teaching at the college level. The Ph.D. program is designed for full-time students who ideally will complete the cycle of course work, qualifying examinations, and doctoral dissertation in five years of uninterrupted study. Requirements for a Ph.D. degree include 48 course credits in history or in a supporting discipline and 24 research credits. Students must successfully complete examinations in a major and a minor field. Normally, these exams are taken in the second and third years. Doctoral candidates must demonstrate appropriate reading knowledge of non-English languages required by each field. Candidates are required to prepare a doctoral dissertation based on original research and successfully defend that dissertation in a final examination conducted by a faculty committee. Some credits for M.A. work in history done at other institutions can usually be transferred with the permission of the School of Graduate Studies, though students may still need to fulfill particular program course requirements. Students may enroll for graduate courses at neighboring universities through the Inter-University Doctoral Consortium (IUDC).

Those interested in the Ph.D. program should apply by December 15 for entry in the fall semester of the next academic year. The complete application consists of the application form, three letters of recommendation, official transcripts of previous academic work, a personal statement, a resume, a writing sample. GRE test scores are optional. All these items must be submitted electronically through the application. More information can be found at the Rutgers-New Brunswick Graduate Admissions website.

In the Global and Comparative History M.A. program, the scholarly excellence of the department and the faculty's strong commitment to teaching and advising are available to students seeking a master's degree. The M.A. in Global and Comparative History is offered within the framework of the doctoral program. Its requirements include eight courses in history, successful completion of an examination in the student's major field, and a capstone course. The program is designed to serve students with a variety of objectives, taking into account the needs and interests of each individual. In addition to the master's degree in Global and Comparative History, the History Department offers a terminal M.A. for students who entered the department as doctoral students but who could not, for various reasons, complete the Ph.D. program.

Those interested in the M.A. program in Global and Comparative History should apply by December 15 for entry in the fall semester of the next academic year. The complete application consists of the application form, two letters of recommendation, a personal statement, official transcripts, resume, and writing sample. GRE test scores are optional. More information can be found at the Rutgers-New Brunswick Graduate Admissions website.

History 510 (SGS-HIST)

Ph.D. Degree Requirements

The History Department's Doctoral Program Basic Requirements

Regardless of field or area specializations, all history doctoral students are required to fulfill the following requirements, within the framework of the Graduate School's basic requirements.

Pre-Examination Course Work. During the Preliminary General Phase, all history doctoral students must minimally attain the forty-eight credits in course work [sixteen courses] mandated by the Graduate School. In the history doctoral program, this general requirement is refined as follows:

- Thirty-nine of the forty-eight credits [thirteen courses] must consist of carefully directed work—i.e. courses in the category of readings, colloquia, seminars, supervised independent study (510:678-79 'Advanced Topics In History'), and, in exceptional circumstances, approved upper-division undergraduate courses. Of these thirteen core courses, six to seven are in a Major Field, and two to three are in a Minor Field. At least two of these courses (six credits) must be research seminars.
- The remaining nine credits [three courses] may be attained through exam prep study and research by enrollment in 510:680 Minor Field Prep., 510:681 Major Field Prep., and 510:682 Dissertation Prep.
- No more than two courses with grades of "C" or "C+" may be used to meet the pre-examination course work requirement.
- Students entering with an M.A. may, with appropriate approvals, transfer up to twenty-four credits of prior graduate work to their Rutgers-New Brunswick doctoral program. The Graduate Vice-Chair will determine which program course requirements will be satisfied by transferred credits.

The Ph.D. Qualifying Examination. After completing the course work and passing the necessary language exams (as stipulated by fields), the student proceeds to the Ph.D. Qualifying Examination. In the history program, this represents a three-step process:

- the Minor Field Exam
- the Major Field Exam: Stage I (Field Exam)
- the Major Field Exam: Stage II (Dissertation Proposal Defense)

The character of these exams is outlined below. After passing all three examinations, the student is then admitted to candidacy for the doctoral degree.

The Dissertation. During the next period of graduate work—the period the Graduate Catalog terms the "Later Special Phase"—students research, write, and defend their doctoral dissertations. Throughout these semesters, they enroll in the course 510:701-702 'Research in History', for a total accumulation of twenty-four credits.

History 510 (SGS-HIST)

M.A. Degree Requirements

Requirements for the Master's Degree in Global and Comparative History

The completion of 30 course credits (10 courses) is required of all students pursuing a master's degree in Global and Comparative History. These courses are generally chosen from a variety of graduate courses offered by the history department. History courses at the graduate level are divided into "colloquium" (thematic) courses, "readings" courses (surveys of key texts in a field of history), and "seminars" (focused on writing primary-source based research papers). MA students will choose the majority of their courses from among the colloquia and readings courses offered each semester.

Students will take the Colloquium in Global and Comparative History at least once (and often more) during their program. This course is generally offered every year in the evenings (5:40-8:40pm) to accommodate part-time students who are working. The course will be offered by different faculty each year with a focus on their thematic interests.

MA students are expected to take the Seminar in World and Comparative History (also offered in the evenings) which is a two-semester (6 credit) course. This two-part course begins in the spring semester; students are expected to do primary source research over the summer and then take the second half of the course in the fall semester when they will complete their research paper.

When appropriate to student research interests, and with prior approval by the instructor, students may take upper-level undergraduate courses offered by the department, often with additional or expanded assignments. M.A. students may also enroll in relevant courses offered by other departments or register for an independent study with a particular faculty member, with the approval of the Director.

The MA degree program is designed for maximum flexibility to accommodate the diverse needs and interests of students. Please contact the M.A. program director to explore additional possibilities and special accommodations.

History 510 (SGS-HIST)

Course Descriptions

Course Descriptions

Courses in Historiography, Theory, and Practice

16:510:500, 502 ***The Historian's Craft (1.5, 1.5)***
Introduction to the professional study of history, the diverse methodological approaches of current historiography, and the place of historical scholarship in both academic and nonacademic spheres.
First-year graduate students only.

16:510:503 (F) ***Africa in World History (3)***
Themes in global history (population movements, disease, development of crops and domesticated animals, technological innovation, cultural forms, empire) approached by placing Africa and Africans at the center of the debates.

16:510:504 (F) ***Global History: Theory, Historiography, and Pedagogy (3)***
Course is designed for students enrolled in the Global M.A. program.

16:510:505 (F) ***Islam: A Global Civilization (3)***
The history and development of Islam as a global civilization from sixth-century Arabia to the contemporary period.

16:510:509 ***Teaching of History (3)***
Assists doctoral students in history as they prepare to teach undergraduate history courses.
For second and third-year doctoral students.

Courses with Transnational, Comparative, or Interdisciplinary Themes

16:510:511 ***Colloquium in Comparative History (3)***

16:510:513 ***Colloquium in Cultural History (3)***

16:510:514 (S) ***Approaches to Global History (3)***
Teaching, thinking, and writing about global history and cross-cultural comparisons of and interactions among major human societies from prehistoric times to the present.

16:510:515 ***Colloquium in United States Foreign Relations (3)***

16:510:516 ***Movements For Social Change in the US and the World (3)***
Explores modern American social movements, the US role in the world, social movements in other countries, global and transnational political and social change, and the relationships between national and global change.

16:510:518 (S) ***Protest and Consciousness: African Labor History in the Comparative Global Context (3)***
The history of African labor, political consciousness, and popular protest; case studies from both the precolonial and modern periods.

16:510:519 ***Colloquium in Intellectual History (3)***
An investigation of consciousness (past and present) through the writings of philosophers, moralists, and cultural critics from the 17th through the 20th centuries.

16:510:520 (F) ***South Asian Global History (3)***
A long view of South Asia, emphasizing interactions with other world civilizations up to the present. Aspects of culture, politics, labor processes, and political economy.

16:510:521 ***Colloquium in Labor History (3)***

16:510:522 ***Comparative Colonialism in Asia (3)***
A comparative study of colonialism that places Japanese and "Western" colonial projects in Asia at the center of debates about colonial encounters in global history.

16:510:529 ***Topics in the History of Sexuality (3)***
Problems and historiography in the history of sexuality in selected historical and cultural contexts.

16:510:532 ***Colloquium in Atlantic History and the African Diaspora (3)***

16:510:534 ***Colloquium in Environmental History (3)***
Studies how environments and cultures have interacted throughout human history.

16:510:535 ***Colloquium in the History of Technology (3)***
Explores how culture has shaped technology as well as the social impacts of technology.

16:510:536 ***Colloquium in the History of Health and Medicine (3)***
How culture has shaped medical and scientific knowledge and how ideas about health and illness have influenced aspects of culture.

16:510:537 ***Colloquium in Urban History (3)***
Introduction to the urbanization process, with emphasis on the city-building process, social mobility and social structure, ethnicity, social and geographic mobility, and political and social reform.

16:510:539 ***Colloquium in Women's and Gender History (3)***
Women's and gender history across national/cultural contexts and time periods.

16:510:541 (F) ***Colloquium in World History (3)***
Focuses on a specific problem or set of problems in world history using readings designed to promote an understanding of the relevant theoretical and analytical literature.

16:510:543 ***Seminar in Cultural History (3)***

16:510:546 ***Seminar I in the History of Science, Technology, Environment, and Health (3)***
Theoretical perspectives, drawn chiefly from the social sciences, emphasizing their role in initiating historical research projects.

16:510:547 ***Seminar II in the History of Science, Technology, Environment, and Health (3)***
Directed research related to the global history of technology, environment, and health.

16:510:549,550 ***Seminar in the History of Women (3,3)***

16:510:551 (S) ***Seminar in World and Comparative History (3)***
Directed research in projects related to a specific theme (such as immigration, imperialism, comparative gender ideologies) that are announced in advance by the instructor.

Courses in African-American and American History

16:510:553 ***Readings in African-American History I (3)***
Survey of early African-American history and historiography.

16:510:554 ***Readings in African-American History II (3)***
Survey of African-American history and historiography.

16:510:555 ***Readings in American History I (3)***
Introduction to the history and historiography of 16th to 18th-century North America. Emphasis on encounters in early America between Europeans, Africans, and Native Americans; comparative experiences of Spanish (Caribbean and Mexico), French (Canada), and English; colonial society and politics; Atlantic economy and slavery; and 18th-century revolutions and nation building. Designed to help students prepare for qualifying exams and to teach the U.S. surveys.

16:510:557 ***Readings in American History II (3)***
Introductory survey of history and historiography; America from the early 19th through early 20th centuries, covering key themes of political, military, social, and cultural development.

16:510:559 ***Readings in American History III (3)***
Introductory survey of history and historiography; America from the early 20th century to the present, covering key themes of political, military, social, and cultural development.

16:510:560 ***Problems and Directed Readings in Women's and Gender History (3)***

16:510:561 ***Colloquium in American History (3)***

16:510:563 ***Colloquium in African-American History (3)***

16:510:571 ***Seminar in Recent American History (3)***

16:510:573,574 ***Seminar in African-American and American History (3,3)***

16:510:585 ***Seminar in American Urban History (3)***

Courses in European History

16:510:593 ***Readings in Medieval History (3)***
Introduction to the major problems and readings in the field of medieval history. Designed to prepare students to become competent and informed teachers in their major field.

16:510:595 ***Colloquium in Medieval History (3)***

16:510:597 ***Readings in Early Modern European History (3)***
Introduction to the major problems and readings in the field of early modern European history. Designed to prepare students to become competent and informed teachers in their major field.

16:510:599 ***Readings in Modern European History (3)***
Introduction to the major problems and readings in the field of modern European history. Designed to prepare students to become competent and informed teachers in their major field.

16:510:601 ***Colloquium in European History (3)***

16:510:603 ***Colloquium in British History (3)***

16:510:611 ***Seminar: Western Europe in the Middle Ages (3)***

16:510:615,616 ***Seminar in European History (3,3)***

16:510:617 ***Seminar in European Intellectual History (3)***

Courses in African and Latin American History

16:510:625 ***Colloquium in African History (3)***
Study of development prior to colonialism. Commercial systems and religious movements analyzed in the context of culture and social organization. Background for studying carryover of culture to the Americas; recent African history.

16:510:631 ***Colloquium in Latin American History (3)***

16:510:637,638 ***Seminar in Latin American History (3,3)***

Individualized Study

16:510:677 ***Advanced Topics in History (3)***

16:510:678 ***Advanced Topics in History (3)***

16:510:679 ***Advanced Topics in History (3)***

16:510:680 ***Minor Field Preparation (3)***
Supervised preparation and study for the minor field examination.

16:510:681 ***Major Field Preparation (3)***
Supervised preparation and study for the major field examination.

16:510:682 ***Dissertation Proposal Preparation (3)***
Supervised preparation of the dissertation proposal.

16:510:701,702 ***Research in History (BA,BA)***
Designed to record research work toward the doctoral dissertation.

History 510 (SGS-HIST)

Members of the Graduate Faculty

Members of the Graduate Faculty

Leslie Alexander, Dr. Martin Luther King, Jr., Professor of History, SAS; Ph.D., Cornell

African American history; African diaspora history; early American history

Daniel Asen, Associate Professor of History, FAS-N; Ph.D., Columbia

Modern China

Yesenia Barragan, Associate Professor of History, SAS; Ph.D., Columbia

Modern Latin America and Caribbean; race, slavery, and emancipation in Afro-Latin America and African Diaspora

Alastair Bellany, Professor of History, SAS; Ph.D., Princeton

Early modern Britain; political and media history; climate and environmental history

Jack Bouchard, Assistant Professor of History, SAS; Ph.D., Pittsburgh

Environmental history; Atlantic history; early modern European history

Mark Bray, Assistant Teaching Professor, SAS; Ph.D., Rutgers

Modern Spain and the world; global history; radicalism

Nicole Burrowes, Assistant Professor of History, SAS; Ph.D., CUNY Graduate Center

African diaspora; modern Caribbean; African American history

Kim D. Butler, Associate Professor of Africana Studies and History, SAS; Ph.D., Johns Hopkins

African diaspora studies; Brazil; Latin America/Caribbean

Carla Cevasco, SAS, Associate Professor of American Studies, SAS; Ph.D., Harvard

Food, the body, gender, and race in early America

Kornel S. Chang, Associate Professor of History and American Studies, FAS-N; Ph.D., Chicago

Asian-American history; race, migration, and labor in the Americas

Jessey Choo, Associate Professor of Chinese History and Religion, SAS; Ph.D., Princeton

Medieval China; cultural and religious history; gender, childbearing, death and memory

Barbara Cooper, Professor of History and African Studies, SAS; Ph.D., Boston

History of West Africa; history of religion; women's and gender history; history of health

Brittany Cooper, Professor of Women's, Gender and Sexuality Studies, SAS; Ph.D., Emory

Black women's intellectual history; Black feminist thought; Hip Hop feminisms and studies; race and gender representation in popular culture; digital feminisms; new media

Kaysha Corinealdi, Associate Professor of Latino and Caribbean Studies, SAS; Ph.D., Yale

Histories of empire, migration, feminism, and Afro-diasporic activism in the Americas

Belinda Davis, Professor of History, SAS; Ph.D., Michigan (Ann Arbor)

Modern Europe; Germany; gender; popular politics

Jefferson Decker, Associate Professor of American Studies, SAS; Ph.D., Columbia

Politics, government, and law in twentieth-century America

James Delbourgo, James Westfall Thompson Distinguished Professor, SAS; Ph.D., Columbia

Atlantic world; history of science; early modern; Enlightenment

Rachel Devlin, Professor of History, SAS, Ph.D., Yale

Twentieth-century American culture and gender

Leah DeVun, Professor of History, SAS; Ph.D., Columbia

Medieval Europe; women's and gender history

Katherine Epstein, Associate Professor of History, FAS-C; Ph.D., Ohio State University

U.S. history; military and diplomatic history; historical methods

Melissa Feinberg, Professor of History and Women's and Gender's Studies, SAS; Ph.D., Chicago

Modern Eastern Europe; Czechoslovakia; women's and gender history

Leslie Ellen Fishbein, Associate Professor of American Studies and Jewish Studies, SAS; Ph.D., Harvard

Women and gender

David Foglesong, Professor of History, SAS; Ph.D., California (Berkeley)

Modern U.S.; History of Foreign Policy and American-Russian Relations

Marisa Fuentes, Presidential Term Chair in African American History and Associate Professor of History and Women's and Gender and Sexuality Studies, SAS; Ph.D., California (Berkeley)

Postcolonial theory and analyses of sexuality and gender in the early black Atlantic world; history of slavery

Tiffany Gill, Associate Professor of History, SAS; Ph.D., Rutgers

African-American and U.S. history; women's and gender history

Angus K. Gillespie, Professor of American Studies, SAS; Ph.D., Pennsylvania

American folklore; myths, legends, tales and ballads

Eva Giloi, Professor of History, FAS-N; Ph.D., Princeton

19th and 20th century European history; modern Germany

Carly Goodman, Assistant Professor of History, FAS-C; Ph.D., Temple

James Goodman, Distinguished Professor of History, FAS-N; Ph.D., Princeton

Modern U.S. race relations and politics; literature as history

Mayte Green-Mercado, Associate Professor of History, FAS-N, Ph.D., Chicago

Islamic civilization; Islamic history in Spain and North Africa; early modern Mediterranean history

David Greenberg, Professor of Journalism and Media Studies and History, SC&I; Ph.D., Columbia

Twentieth-century United States; political and cultural history

Bright Gyamfi, Assistant Professor of History, SAS; Ph.D., Northwestern

Africa, African Diaspora, and Economic Development

Paul Hanebrink, Professor of History, SAS; Ph.D., Chicago

Modern Eastern and Central Europe; Hungary; histories of religion, nationalism, and antisemitism

Jochen Hellbeck, Distinguished Professor of History; and Vice Chair for Graduate Education, SAS; Ph.D., Columbia

History of Soviet Union

Chie Ikeya, Professor of History, SAS; Ph.D., Cornell

Southeast Asian history; Burma; colonialism; comparative colonialisms; race, gender, and sexuality

Paul B. Israel, Research Professor and Director, Thomas A. Edison Papers, SAS; Ph.D., Rutgers

Modern U.S.; history of science and technology

Jennifer M. Jones, Associate Professor of History, SAS; Ph.D., Princeton

Early modern Europe; France; European women; history of fashion and design

Sandy Russell Jones, Associate Teaching Professor; Ph.D., Pennsylvania

Modern Middle East: History of Islam

Toby C. Jones, Associate Professor of History, SAS; Ph.D., Stanford

Modern Middle East; technology and environment

Benjamin Justice, Distinguished Professor of Education, GSE; Ph.D., Stanford

Education; prison education; religion in public schools; 19th-century United States

Nick Kapur, Associate Professor of History, FAS-C; Ph.D., Harvard

Modern Japan and East Asia; transnational and comparative perspectives

Samantha Kelly, Distinguished Professor of History; and Department Chair, SAS; Ph.D., Northwestern

Medieval Europe; Renaissance Europe and Africa

Suzy Kim, Associate Professor of Asian Languages and Cultures, SAS; Ph.D., Chicago

Modern Korean history; social and cultural history; gender studies; oral history; social theory

Tia Kolbaba, Associate Professor of Religion, SAS; Ph.D., Toronto

Early Christianity, Byzantine Studies

Seth Koven, G.E. Lessing Distinguished Professor of History and Poetics, SAS; Ph.D., Harvard

Britain; women's gender and sexuality; cultural history of modern Europe

Elaine LaFay, Assistant Professor of History, SAS; Ph.D., Pennsylvania

Environmental history; 19th century U.S. history

D. Christian Lammerts, Associate Professor of Religion, SAS; Ph.D., Cornell

Theravāda Buddhism, Buddhism and Law, Legal History

Aldo A. Lauria-Santiago, Professor of Latino and Hispanic Caribbean Studies, SAS; Ph.D., Chicago

Latin America; Central America; peasantry; revolution; U.S. Latino history and U.S. empire; migration and ethnicity

Sukhee Lee, Associate Professor of History, SAS; Ph.D., Harvard

Middle Period Imperial China; social and intellectual history

Xun Liu, Associate Professor of History, SAS; Ph.D., Southern California

Late imperial and modern China; history of religion

Kathleen López, Associate Professor of Latino and Hispanic Caribbean Studies and History, SAS; Ph.D., Michigan

Caribbean; Latin America; diaspora studies

Neil Maher, Professor of History, FAS-N, NJIT; Ph.D., New York University

20th century U.S. environmental history; political history; urban history; history of environmental justice

Emily Marker, Associate Professor of History, FAS-C; Ph.D., Chicago

Imperial and postcolonial Europe; francophone Africa; race, religion, youth and global history

Norman D. Markowitz, Associate Professor of History, SAS; Ph.D., Michigan

U.S. political; radical movements

Margaret Marsh, University Professor, FAS-C; Ph.D., Rutgers

United States; gender and medicine; gender and culture; sexuality and reproduction

James P. Masschaele, Professor of History, SAS; Ph.D., Toronto

Medieval Europe; English economic

Louis P. Masur, Board of Governors Distinguished Professor of History and American Studies, SAS; Ph.D., Princeton

American cultural history

Johan Mathew, Associate Professor of History; and Director, Global and Comparative History Master's Degree Program, SAS; Ph.D., Harvard

Global and Economic History; Indian Ocean

Matt Matsuda, Professor of History, SAS; Ph.D., California (Los Angeles)

Histories of the Pacific; modern France; modern Europe

Richard L. McCormick, Distinguished Professor of History and Education, SAS; and President Emeritus, Board of Governors; Ph.D., Yale University

Nineteenth- and Twentieth-Century US: Political History

Maya Mikdashi, Associate Professor of Women's, Gender and Sexuality Studies, SAS; Ph.D. Columbia

State and archival power; sexual and political difference; law, religion, and secularism

Jennifer Mittelstadt, Professor of History, SAS; Ph.D., Michigan (Ann Arbor)

Twentieth-century U.S. politics; gender, race, and the state; women; military

Susan Mokhberi, Associate Professor of History, FAS-C; Ph.D., California (Los Angeles)

Early modern European diplomatic and cultural history; encounters between East and West

Donna Murch, Associate Professor of History, SAS; Ph.D., California (Berkeley)

African American; African diaspora; history of mass incarceration

Kristin O'Brassill-Kulfan, Assistant Professor of History, SAS; Ph.D., Leicester

Nineteenth-century U.S.; social history; public history

Stephen Pemberton, Associate Professor of History, NJIT/FAS-N; Ph.D., North Carolina

Twentieth-century medicine; public health; biomedical services and technology

Hieu Phung, Assistant Professor of Vietnamese and Southeast Asian History, SAS; Ph.D., Hawaii (Manoa)

Environmental history; Vietnam and Southeast Asia

Jamie Pietruska, Associate Professor of History, SAS; Ph.D., Massachusetts Institute of Technology

Nineteenth-century U.S. culture; science and technology; knowledge production

Gary Rendsburg, Blanche and Irving Laurie Distinguished Professor of Jewish History, SAS; Ph.D., New York

Ancient Israel and Egypt; Bible; history of Hebrew language

Beryl E. Satter, Professor of History, FAS-N; Ph.D., Yale

U.S. women; medicine

Johanna Schoen, Distinguished Professor of History, SAS; Ph.D., North Carolina

Twentieth-century United States; public health

Tamara Sears, Associate Professor of Art History, SAS; Ph.D., Pennsylvania

Art of Asia; medieval; architectural history

Tatiana Seijas, Associate Professor of History, SAS; Ph.D., Yale

Early modern global history; early American history

Andrew Shankman, Associate Professor of History, FAS-C; Ph.D., Princeton

Colonial British North America; revolutionary and early national U.S.; early modern England

Peter Silver, Associate Professor of History, SAS; Ph.D., Yale

Early America and the Atlantic World; Native American, Religious and Political History

Nancy Sinkoff, Professor of Jewish Studies and History, SAS; Ph.D., Columbia

Early modern and modern Jewish; Eastern Europe

Julia Stephens, Associate Professor of History, SAS; Ph.D., Harvard

South Asia; Islam; gender; legal history

Timothy Stewart-Winter, Associate Professor of History, FAS-N; Ph.D., Chicago

LGBTQ history; social, political, and cultural history of modern America

Whitney Strub, Associate Professor of History, FAS-N; Ph.D., California (Los Angeles)

Modern U.S. history; history of sexuality; film; legal, political, and cultural history

Judith Surkis, Professor of History, SAS; Ph.D., Cornell

Modern Europe and European empires, especially France and North Africa; gender and sexuality; intellectual and legal history

Paola Tartakoff, Professor of History and Jewish Studies, SAS; Ph.D., Columbia

Religious and cultural history of medieval Europe

Camilla Townsend, Board of Governors Distinguished Professor of History, SAS; Ph.D., Rutgers

Latin America; Native America; women's and gender; early America

Mary Trigg, Associate Professor of Women's, Gender, and Sexuality Studies, SAS; Ph.D., Brown

History of feminism and social movements in the United States; motherhood studies and women, work, and family; and women’s/feminist leadership

Audrey Truschke, Professor of History, FAS-N; Ph.D., Columbia

Cultural, imperial, and intellectual history of early modern and modern India

Andrew Urban, Associate Professor of American Studies and History, SAS; Ph.D., Minnesota

U.S. immigration, empire, and labor history; public history and memory

Carla Yanni, Distinguished Professor of Art History, SAS; Ph.D., Pennsylvania

Arts of the Americas; nineteenth and twentieth century architectural history

History 510 (SGS-HIST)

Public Humanities Certificate

Public Humanities Certificate

Contact: Kristin O’Brassill-Kulfan, Ph.D., Assistant Professor of History and SAS Director of Initiative in Public Humanities

Please visit the Public History Certificate website.

About the Public Humanities Graduate Certificate

This certificate program offers Rutgers graduate students cross-departmental and interdisciplinary learning experiences in publicly engaged humanities scholarship and methods.

The certificate program aims to train students to engage diverse publics in reflecting on community engagement, collaborative knowledge production, digital literacy, history, memory, and culture, and the relevance of the humanities to the current conditions of civic life. Along the way, students will develop the necessary skills for doing publicly engaged scholarship, for teaching undergraduate and graduate courses in the publicly engaged humanities related to their disciplines, and to broaden their career pathways inside or outside academia as they complete their degrees.

This certificate will provide graduate students with the option to pursue a set of graduate courses that emphasize the public humanities across departments at Rutgers, as well as practicum components that foster independent skill-building in related fields. These courses focus on interdisciplinary learning and creating connections across different humanities fields and methods on campus and the world outside of the academy. It offers students a unique opportunity to consider the synergies between and among their intellectual work, program-based and independent projects, community and civic engagement, and future career options. It also serves Rutgers' public service mission as a state university, facilitating deeper engagement with the peoples who surround and populate the university community.

Program Requirements

The Public Humanities Graduate Certificate is a 9-credit program comprised of three courses, distributed as follows:

- Introduction to Public Humanities, 16:534:587
- One graduate elective in Public Humanities, from approved list below
- Practicum, consisting of an approved internship or public-facing independent project

See below for more detail about each program component.

Introduction to Public Humanities (3 credits, 16:534:587)

Students must complete this course in order to be awarded the Public Humanities Graduate Certificate. In the course, students will receive an orientation to the field and to diverse public humanities methodologies. This course is designed to give students a "Public Humanities practice toolkit" including learning about project management, community engagement, and reaching a wide variety of audiences in public writing. Crucially, this course includes experiential learning in Digital Humanities and Oral History methods, instructive site visits, and critical networking opportunities with guest speakers and local practitioners. This course will prepare students to pursue independent and project-based work in public humanities and to network with professionals in the field. Students will be invited to continue their conversations in a Working Group in Public Humanities at the Center for Cultural Analysis (established in 2019).

One graduate elective in Public Humanities (3 credits)

Courses that fulfill this requirement include but are not limited to the list below. Additional courses may be added on a semester-by-semester basis. If you are interested in using a course not listed here to fulfill this requirement, please contact one of the program directors.

- 16:082:593 Foundations in Cultural Heritage
- 16:082:605 Methods in Cultural Heritage and Preservation Studies
- 16:082:593 Museums, Collecting, and Preserving
- 082.563 Curatorial Training Seminar
- 082.698 Exhibition Seminar
- 01:350:513 Literature and New Media
- 01:350:514 Cultural Studies and Planetary Change
- 08:206:559 Dance Studies and Oral Performance
- 08:206:523 Dance Externship
- 08:206:522 History of Creative Engagement
- 16:510:631 Colloquium in Latin American History
- 16:510:521 Colloquium in Labor History
- 16:510:509 Teaching of History
- (new proposed course, History Department) Law and History
- (new proposed course, Italian Department) Digital Editing: Theories and Practices
- 16:940:540. Environmental Humanities: Inter- and Transdisciplinary Issues
- 16:940:604. Public Culture in Latin America
- 16: 350: 512: Liveness and Living On: Ecocriticism in the Twenty-First Century
- 16: 350: 560: Writing With Light: Nineteenth-Century American Photography

Practicum, consisting of an approved internship or public-facing independent project (3 credits; Students enroll in independent study courses in their own departments to fulfill this requirement)

- Students register for an Independent Study course, or any other appropriate course number, in their own department (3 credits)
- In order to fulfill the Practicum requirement, students may:
    - Choose to pursue an internship through the Graduate Public Humanities Summer Internship program supported by the Dean of Humanities Office, or a different supervised public humanities internship approved by the certificate coordinator/Advisory Committee members.
    - Or choose to create a public-facing independent project that will be supervised by a member of the Advisory Committee or an Affiliated Faculty Member.

In either case, students work with the certificate coordinator and/or a member of the Advisory Committee with expertise relevant to their interests to make arrangements to either complete an internship (possibly within the Public Humanities Summer Internship program referenced above) with a public humanities agency/institution or complete an independent public-facing project. If the student completes an internship to fulfill this requirement, that faculty member will act as the student's academic advisor for the placement. If the student chooses to create a public-facing project to complete the requirement, a faculty member from the Advisory Committee will advise and evaluate the project.

Through this course, students will make valuable contributions to the field of public humanities in their independent projects and/or in collaborations with the sites/agencies where they complete their internships.

Industrial Relations and Human Resources 545 (SGS-IRHR)

INDUSTRIAL RELATIONS AND HUMAN RESOURCES 545

See Ph.D. Program in Industrial Relations and Human Resources (I.R.H.R) in the School of Management and Labor Relations section of this catalog.

Industrial and Systems Engineering 540 (SGS-ISE)

INDUSTRIAL AND SYSTEMS ENGINEERING 540

Degree Programs Offered: M.S./Ph.D.

Please visit the Industrial and Systems Engineering website.

Faculty

Melike Baykal-Gursoy, Ph.D., Pennsylvania

David Coit, Ph.D., Pittsburgh

Elsayed Elsayed, Ph.D., Windsor

Ahmed Aziz Ezzat, Ph.D., Texas A&M

Weihong (Grace) Guo, Ph.D., Michigan (Ann Arbor)

Mohsen Jafari, Ph.D., Syracuse

Myong (MK) Jeong, Ph. D., Georgia Institute of Technology

Robert Mieth, M.S., Ph.D., Berlin

Tugrul Ozel, Ph.D., Ohio

Hoang Pham, Ph.D., SUNY (Buffalo)

Randy Reagan

Fred Roberts, Ph.D., Stanford

Elin Wicks, Ph.D., Virginia Tech

Elin Wicks

Zhimin Xi, Ph.D., Maryland

Farzad Yousefian

Industrial and Systems Engineering 540 (SGS-ISE)

Degree Requirements

Degree Requirements

For more information, please see the Graduate Programs page on the School of Graduate Studies website.

Industrial and Systems Engineering 540 (SGS-ISE)

Course Descriptions

Course Descriptions

For more information, please see the Graduate Programs page on the School of Graduate Studies website.

Industrial and Systems Engineering 540 (SGS-ISE)

Graduate Degrees

Graduate Degrees

We offer graduate degrees that reflect individual student goals from career advancement to research intensive.

Master of Engineering Degree

This degree is an excellent choice for professionals looking to enhance their career opportunities. This degree is relevant across a variety of industries from advanced manufacturing and healthcare to transportation, infrastructure, financial systems, and more.

This degree includes an on campus or fully online option.

Master of Science Degree

This degree provides advanced training in critical areas that span Industrial & Systems Engineering research areas of data science and optimization, stochastic systems, production and manufacturing and quality and reliability engineering.

Doctoral Degree

This degree trains students at the highest level to assume leadership roles in technical fields in research, academia, the public sector, and industry.

B.S./Master's Degree

The combined B.S./M.S. and B.S./M.E. program enables top Rutgers undergraduate engineering students to be accepted into our graduate programs in an expedited way. In addition, it gives those students the possibility to receive master's degree in a shortened time frame.

Certificate Programs

- Manufacturing Informatics
- Energy Systems

Interdisciplinary 554 (SGS-INTERDIS)

INTERDISCIPLINARY 554

Degree Programs Offered: Ph.D.

Website:

This is an interdisciplinary program with no faculty or courses set managed by the School of Graduate Studies.

Faculty

Jennifer Atchison

Maria Kraimer

Italian 560 (SGS-ITALIAN)

ITALIAN 560

Degree Programs Offered: M.A./M.A.T./Ph.D.

Please visit the Italian website.

Faculty

Andrea Baldi, Ph.D., California (Los Angeles)

Paola Gambarota, Ph.D., Yale

Carmela Scala, Ph.D., New York (CUNY)

Alessandro Vettori, Dott. in Lettere, Florence; Ph.D., Yale

Laura White, Dott. in Lettere, Trieste; Ph.D., California (Los Angeles)

Italian 560 (SGS-ITALIAN)

The Master of Arts in Italian

The Master of Arts in Italian

The Master of Arts in Italian trains students at the highest level to pursue careers teaching Italian language, literature, culture, and cinema studies. Students may also use their acquired skills to pursue careers in publishing, translation, or to work in cultural institutions in the US, in Italy, and abroad.

Requirements and Procedures for the completion of the M.A. in Italian

The M.A. program is open to candidates with academic records of distinction and other evidence of scholarly accomplishments.

The candidates must satisfactorily complete 10 term courses (30 credits) and take a comprehensive examination based on a reading list.

Coursework

The number of course credits required is 30. All graduate students who teach must also take the Methodology of Teaching course.

M.A. Examination

The examination consists of two four-hour written exams to be taken in two consecutive days in the department. It is based on a reading list available on Sakai (site name “Graduate Students Info”). This is an open-book exam, for which the students will be

able to consult the texts assigned in the reading list, in PDF format, on a department computer (no WiFi connection).

EXAM DAY 1. Candidates will be given a choice of three questions and must answer two on texts from the 13th-16th centuries.

EXAM DAY 2: Candidates will be given a choice of three questions and must answer two on the texts (including cinema) from the 17th-20th centuries.

On each day, the choice of three questions will be structured as follows:

1) Students will perform a close reading of a particular passage.

2) Students will address the historical and aesthetic contexts of a text.

3) Students will answer a transhistorical question that addresses changes in trends, themes, and/or forms over time.

The answers should demonstrate a) a knowledge of major canonical works of Italian literature across centuries, through post-WWII period; b) the ability to analyze a given literary text by placing it within the proper historical, cultural, ideological and aesthetic contexts; and c) the ability to identify major trends and themes in terms both of content and of style, and to draw connections between texts and periods. Two questions must be answered in Italian and two in English.

The exam as a whole must address at least four centuries of literary production. In addition, the exam as a whole should answer one of each type of question (see the list of three types of questions above).

Candidates are expected to have completed at least 30 credits before taking the examinations and to take the exams within one year of ending their coursework.

In case of failure, the exam must be taken again within the next semester and may not be retaken more than once.

Exam Sessions

The calendar of exams will be coordinated in agreement with the Graduate Program Director

Grades

The grades assigned are High Pass, Pass, Terminal Pass, and Fail.

M.A. Learning Goals

Learning Goal 1 for Students: Achieve mastery in reading and analyzing critically and creatively literary, cultural, and cinematic texts of the Italian tradition.

Assessment of student achievement of Goal 1:

- Grades in graduate courses
- M.A. examination assessing the depth and breadth of knowledge
- Assessment of exam by committee of graduate faculty members
- Review by faculty of student progress

Role of the program in helping students to achieve Goal 1:

- Close advising to ensure that students are being prepared in a coherent and academically rigorous fashion
- Effective monitoring of student progress
- Evaluation of teaching effectiveness of instructors in graduate courses
- Periodic review of curricular Offerings, degree requirements and assessment tools by program faculty, with input from a graduate student curriculum committee, and in consultation with the office of the dean of the graduate school and/or the unit dean

Learning Goal 2 for Students: Prepare to be professionals in the field of Italian language, literature, and culture

Assessment of graduate student achievement of Goal 2:

- Grades in graduate coursework and comprehensive examination
- Collection of placement data in professional placement and continuation of graduate studies
- Survey alumni/ae

Role of the program in helping students to achieve Goal 2:

- Encourage participation in professional development programs in such areas as literature instruction, language pedagogy, library use, course management software
- Host professional development and career exploration workshops
- Teach students how to do assessment in their future professional capacities
- Acquaint students with nonacademic career opportunities.

The graduate faculty, with input from a graduate student curriculum committee, will regularly review the structure and content of the program and the feedback received from assessment and surveys.

These reviews will be used to provide the best possible education to students in order to meet the needs for highly trained individuals in the field of Italian language, literature, and culture

Italian 560 (SGS-ITALIAN)

The Master of Arts in Teaching

The Master of Arts in Teaching

The MAT program is intended primarily for those who are teaching, or intend to teach, at the K-12 level. The program emphasizes language, literature, and culture. Candidates are admitted on the basis of their prior formal background and professional experience and performance. They should have the equivalent of a Minor in Italian before applying or, as an alternative, take some undergraduate courses. The MAT in Italian is considered to be a terminal degree, in that it does not lead to the Ph.D. program. Any student who seeks admission to the Ph.D. program after completing the MAT degree must apply through the normal application process.

Requirements and Procedures for the completion of the M.A.T. in Italian Candidates for the M.A.T. must satisfactorily complete ten term courses (30 credits), including the completion of a teaching portfolio

Coursework

MAT students are required to take a total of 30 credits. Applicants for the MAT are encouraged to take the courses offered during the summer at the World Languages Institute prior to being admitted to the MAT program. Courses with a grade of B or better will be counted toward the degree.

Of the 30 course credits, 27 credits of coursework, must be chosen among courses in Italian literature, civilization, language, cinema, and methodology taken primarily at the Rutgers Summer World Languages Institute or in the Italian Department (with the permission of the Graduate Director) and a further 3 credits are assigned to the Teaching Portfolio. The 27 credits that are earned at the World Languages Institute should be distributed in the following fashion: 12 credits in literature and culture; 9 credits in language, grammar, and language across the curriculum; 3 credits in methodology; 3 elective credits. The majority of courses taken in the Italian Department should be in Italian. One of the courses may be a course taught in English, chosen in consultation with the Graduate Director.

Students may participate in a summer study abroad earning up to 6 credits toward the degree, with the approval of the Graduate Director.

Students may elect to take one course (3 credits) at the Graduate School of Education, with the approval of the Graduate Director.

The Graduate Director may accept up to 12 credits from another institution to be used toward the degree only after 12 credits have been completed at Rutgers. Up to 4 undergraduate courses are permitted by the Graduate School.

Teaching Portfolio

MAT candidates who have accumulated 27 credits of course work are encouraged to register for their last three credits, which is an independent study, to begin work on a teaching portfolio. Students with only 24 credits may register concurrently during the academic year or during the summer for the last WLI course needed to acquire 27 credits as well as for the independent study. Before registering for the independent study, MAT candidates should confer with the departmental graduate director to inform him/her about their number of credits acquired to date and to indicate their readiness to begin work on a teaching portfolio. At that time, candidates should discuss with the graduate director the appropriate choices for the portfolio committee.

M.A.T. Learning Goals

Learning Goal 1 for Students: Achieve mastery in reading and analyzing critically and creatively literary, cultural, and cinematic texts of the Italian tradition.

Assessment of student achievement of Goal 1:

- Grades in graduate courses
- Seminar presentations
- Assessment of Teaching Portfolio by committee of graduate faculty members
- Review by faculty of student progress.

Role of the program in helping students to achieve Goal 1:

- Close advising to ensure that students are being prepared in a coherent and academically rigorous fashion
- Effective monitoring of student progress
- Evaluation of teaching effectiveness of instructors in graduate courses
- If effectiveness is below expectation, work with instructor to improve effectiveness
- Periodic review of curricular Offerings, degree requirements and assessment tools by program faculty and in consultation with the office of the dean of the graduate school and/or the unit dean.

Learning Goal 2 for Students: Ability to teach Italian language, literature, and culture.

Assessment of student achievement of Goal 2:

- Performance in Methodology course
- Assessment of Teaching Portfolio by committee of graduate faculty members
- Seminar presentations
- Review by faculty and close mentoring.

Role of the program in helping students to achieve Goal 2:

- Supervision of student teaching and Mentoring
- Participation in second-language acquisition workshops organized by the department and attendance of workshops organized by the World Language Institute
- Videotaping of classes with review of videotapes
- Review of student evaluations
- Evaluations of teaching effectiveness of instructors in graduate courses

- Periodic review of curricular Offerings, degree requirements and assessment tools by program faculty and in consultation with the office of the dean of the graduate school and/or the unit dean.

The Italian graduate faculty, with input from students of the MAT program, will regularly review the structure and content of the program and the feedback received from assessment and surveys. These reviews will be used to provide the best possible education to students in order to meet the needs for highly trained individuals in the field of Italian language, literature, and culture.

Italian 560 (SGS-ITALIAN)

Ph.D. in Italian

Ph.D. in Italian

Requirements and Procedures for the completion of the Ph.D. in Italian

Coursework

The maximum number of course credits required is 48, of which at least 27 must be taken at Rutgers. There is also a minimum requirement of 24 research credits. All graduate students who teach must take the Methodology of Teaching course (940:501, offered yearly through the Spanish Department). Other required courses are: one course in Theory of Literature (195:501: Intro to Literary Theory; or 195:617: Advanced topics in Literary Theory, offered through the Comparative Literature Department), and one Graduate Writing course (16:355, no credits, offered through the English Department), to be chosen in consultation with the Graduate Program Director.

Students who come to Rutgers with an M.A. degree in Italian from another university or an equivalent are admitted on a conditional basis. After completing 12 credits with grades of B or better, the Italian Graduate Faculty will determine, on a case-by-case basis, how many courses taken at other institutions will be accepted toward the Doctorate at Rutgers. However, in no case will doctoral candidates take less than 11 graduate courses at Rutgers.

Ph.D. Learning Goals

The doctoral program in Italian trains students at the highest level to pursue academic careers in Italian language, literature, culture, and cinema studies. Students may also use their acquired skills to pursue careers in publishing, translation, or to work in cultural institutions in the US, in Italy, and abroad.

Learning Goal 1 for Students: Attain the ability to analyze critically and creatively literary, cultural, and cinematic texts of the Italian tradition, and, when appropriate, in relation to other national contexts.

Assessment of student achievement of Goal 1:

- Grades in graduate courses
- M.A. examinations assessing the depth and breadth of knowledge
- Review by faculty of student progress with close advising and mentoring
- Placement in positions and careers that require ability and scholarship in Italian language, literature, culture, and cinema.

Role of the program in helping students to achieve Goal 1:

- Close advising to ensure that students are being prepared in a coherent and academically rigorous fashion
- Effective monitoring of student progress
- Evaluations of teaching effectiveness of instructors in graduate courses
- Periodic review of curricular Offerings, degree requirements and assessment tools by program faculty, with input from a graduate student curriculum committee, and in consultation with the office of the dean of the graduate school and/or the unit dean.

Learning Goal 2 for Students: Engage in and conduct original research.

Assessment of graduate student achievement of Goal 2:

- Oral presentations
- Seminar papers
- M.A. examinations
- Qualifying examinations
- Preparation of bibliography in consultation with faculty members
- Presentation of bibliography and its rationale
- Delivery of written exams
- Preparation and defense of Ph.D. dissertation proposal
- Assessment of quality of Ph.D.

Dissertation:

- Public defense of dissertation o Critical reading of dissertation by committee of graduate faculty members and a committee member from outside of the Italian graduate program
- Submission and acceptance of peer-reviewed articles and conference papers based on the dissertation
- Achievement of students as evidenced by professional placements, selection for conference presentations, peer-reviewed publications and individual grant attainment.

Role of the graduate program in helping students achieve Goal 2:

- Provide early introduction to research methods and opportunities for research
- Provide opportunities to present research and receive feedback
- Maintain adequate funding levels through the research phase
- Provide comprehensive advising and assist in the identification of mentors.

Learning Goal 3 for Students: Ability to teach Italian language, literature, and culture

Assessment of student achievement of Goal 3:

- Attendance in training workshop for new instructors
- Participation in monthly meetings with coordinator
- Performance in Methodologies course
- Review by faculty of class observation and advising and mentoring
- Peer class observation.

Role of the program in helping students to achieve Goal 3:

- Supervision of student teaching with bi-annual class observation; mentoring; participation in lectures and workshops organized by the department; attendance of workshops organized by the World Language Institute; videotaping of classes and review of videotapes; review of student evaluations
- Close advising to ensure that students are being prepared in a coherent and academically rigorous fashion
- Effective monitoring of student progress
- Evaluations of teaching effectiveness of instructors in graduate courses
- Periodic review of curricular Offerings, degree requirements and assessment tools by program faculty and in consultation with the office of the dean of the graduate school and/or the unit dean.

Learning Goal 4 for Students: Prepare to be professionals in careers that require training at the highest levels in the field of Italian studies as well as problem-solving skills and the ability to collaborate on collective projects.

Assessment of graduate student achievement of Goal 4:

- Review evidence of papers presented, publications and professional networking
- Evaluation of work in service committees (Advisory committee, Rutgers Day committee, Newsletter committee) and in the Italian Graduate Society
- Evaluations of teaching effectiveness of graduate student instructors
- Collection of placement data
- Review by external advisory committees composed of leading scholars in the field
- Survey alumni/ae

Role of the program in helping students to achieve Goal 4:

- Develop discipline-specific programs in concert with the American Association of Teachers of Italian, the American Association of Italian Studies, the Modern Language Association of America, the North Eastern Modern Language Association of America, the American Comparative Literature Association, as well as with academic journals and presses
- Encourage participation in professional development programs in such areas as literature instruction, language pedagogy, library use, course management software, interview skills, presentation skills, development of CV's, use of research tools, training in the responsible conduct of research, and proposal writing
- Mock interviews in preparation for the job market
- Colloquia that offer presentation of dissertation work with feedback from faculty and fellow graduate students
- Host discipline-specific training when appropriate
- Teach students how to do assessment in their future professional capacities
- Provide flexible options for students with interdisciplinary interests related to Italian language, literature, and culture • Develop or enhance programs related to job and networking skills, including activity in professional societies
- Acquaint students with non-academic career opportunities.

The Italian graduate faculty, with input from a graduate student curriculum committee, will regularly review the structure and content of the program and the feedback received from assessment and surveys. These reviews will be used to provide the best possible education to students in order to prepare them as highly trained individuals in the field of Italian language, literature, and culture.

Italian 560 (SGS-ITALIAN)

Course Descriptions

Course Descriptions

16:560:501 History of the Italian Language (3)
Development of the Italian language from its origins to the present, with emphasis on the phonological, morphological, syntactical, and lexical development of the literary tongue.

16:560:509,510 Italian Civilization (3,3)
Survey of Italian civilization, with emphasis on its expression through the arts from the 13th century to the present.

16:560:511,512 Approaches to Literature (3,3)
Poetry and prose from various periods of Italian literature, with examples of interpretive and textual scholarship and criticism, and various methods of literary study.

16:560:521 (F) Problems of Teaching Italian (1.5)
Objectives, teaching techniques, testing, and student evaluation in elementary and intermediate language and literature courses. Introduction to bibliographical and professional resources. Class observation. Scala

16:560:522 (S) Teaching Apprenticeship in Italian (1.5)
Observation of elementary and intermediate language classes; supervised practice teaching. Scala

16:560:601,602 Studies in Early Italian Literature (3,3)
The beginnings of Italian literature in the 13th century; poetry and prose before Dante, the Sicilian School, and the dolce stil nuovo. Vettori, White

16:560:605 Dante Seminar (3)
Medieval thought as represented in Dante's works. Vettori

16:560:613 Italian Literature of the 14th Century (3)
First semester: Petrarch. Second semester: Boccaccio. White

16:560:615 Italian Literature of the 15th Century (3)
First semester: the development of Humanism (Bruni, Valla, Alberti, Pico della Mirandola, Ficino, and others). Second semester: the poets (Lorenzo, Poliziano, Pulci, Boiardo, and others).

16:560:622 Italian Literature of the 16th Century (3)
Issues of Renaissance literature and culture, seen from a critical perspective. First semester: Machiavelli, Guicciardini, and others. Second semester: Castiglione, Della Casa, Speroni, Aretino, Tasso, Fonte, and others. Baldi

16:560:625 Italian Epic and Chivalric Poetry (3)
Medieval origins of the genre and its evolution during the Renaissance through Pulci's Morgante, Boiardo's Orlando Innamorato, Ariosto's Orlando Furioso, and Tasso's Gerusalemme Liberata. Baldi, White

16:560:631 Italian Literature of the 17th Century (3)
Works of Campanella, Marino, Galileo, and baroque theater. White

16:560:632 Italian Literature of the 18th Century (3)
Works of Vico, Goldoni, Gozzi, Parini, Alfieri, and others. White

16:560:635 Vico and His Modern Readers (3)
Vico's major works and his impact on modern readers such as Gramsci, Croce, Cassirer, Berlin, Habermas, and Said. Gambarota

16:560:640 Language and Nation in Italian Thought (3)
Notions and strategies adopted by Italian intellectuals to link language and national identity. Dante, Bembo, Vico, Manzoni, Leopardi, Gramsci, and Pasolini viewed in the light of current theories. Gambarota

16:560:641 The Romantic Age (3)
First half of the 19th century. Neoclassic school and European romantic poetics: Foscolo, Leopardi, and Manzoni. Poets, critics, and ideologues of the Risorgimento. Gambarota

16:560:643 Italian Literature of the Late 19th Century (3)
The Scapigliatura. The major poets: Carducci, Pascoli, D'Annunzio, and their relationship to European decadentism and symbolism. Poetics of naturalism and Verismo: Verga, D'Annunzio, Fogazzaro, and Capuana. Baldi

16:560:647 Italian Women Writers in the 19th and 20th Centuries (3)
Analysis of works by Neera, Marchesa Colombi, Serao, Aleramo, Deledda, Banti, Morante, Ginzburg, Maraini, Ortese, and others. Emphasis on historical and theoretical issues of women's writing (essays by Freud, Riviere, Benjamin, Cixous, Kristeva, and Butler). Baldi

16:560:650 Autobiography: The Art of Self-Fashion (3)
A survey of Italian autobiographic texts through the lens of the most recent theories on the genre (De Man, Dérrida, Lejeune, Gusdorf, Gasché, Spengeman, Eakin). Vettori

16:560:651 Poetry, Theory, and Modernity (3)
Methodological and theoretical issues in the study of lyric poetry within the context of Modernity and in relation to other media. Questions of definition, approaches, and interpretation. Gambarota

16:560:655 Modern Italian Theater (3)
Italian naturalistic and bourgeois theater from its late 19th-century origins to the major works of Verga, D'Annunzio, Giacosa, and Bracco. The "grotesque" theater, Pirandello, and the contemporary theater from Betti, Fabbri, and De Filippo to Zardi, Squarzina, and Testori.

16:560:657 Italian Literature of the 20th Century (3)
Reaction to the 19th-century models in poetry, fiction, and theater; establishment of new models of writing in the cultural climate that followed futurism and World War I; the hermeticism of the 1930s and the neorealism of the 1940s; major authors and trends of recent decades. Gambarota

16:560:662 The Italian Short Story (3)
The origins, development, and influence of the Italian short story from the Novellino to today. Vettori, Baldi

16:560:668 Strategies for Teaching Second Language (3)
This course provides an analysis of the successful strategies used to effectively teach a second language, both in the traditional face-to-face class and online (synchronous/asynchronous and remote). Scala

16:560:673, 674 Problems in Literary Relationships (3,3)
Independent study under the supervision of a faculty member of the relationship between Italian literature and other national literatures. Baldi, Gambarota, Scala, Vettori. White

16:560:691 Topics in Italian Literature and Culture (3)
Study of a special topic in Italian literature and culture. Baldi, Gambarota, Scala, Vettori. White

16:560:701,702 Research in Italian (BA,BA)
Baldi, Gambarota, Vettori. White

Kinesiology and Applied Physiology 572 (SGS-KAP)

KINESIOLOGY AND APPLIED PHYSIOLOGY 572

Degree Programs Offered: M.S./Ph.D.

Please visit the Kinesiology and Applied Physiology website.

The **Kinesiology and Applied Physiology (KAP)** interdisciplinary program focuses on physiological research that has shaped current understanding of how exercise influences short- and long-term human health. Kinesiology, exercise science, and applied physiology have become increasingly valued disciplines given the trends in obesity, heart disease, hypertension, type II diabetes, cancer, and other non-communicable chronic diseases. Our faculty study the role of physical activity, exercise, and related lifestyle factors (e.g., sleep, nutrition, substance use) in the prevention and treatment of these conditions, as well as in the treatment of depression, anxiety, and other stress-related disorders. The research developed in the field of kinesiology has shaped the guidelines for physical activity promoted by major health organizations (e.g., US Department of Health and Human Services) and is strongly influencing the current social narrative around health. In addition, the field of Applied Physiology emphasizes organ systems, especially musculoskeletal, cardiovascular, pulmonary, neural, and digestive systems, in health research. Linking these systems to human behavior and clinical health outcomes has proven to be a successful path to federal grant funding by our faculty and students.

Our program includes M.S. and Ph.D. options. The KAP program is committed to creating a supportive and stimulating learning environment for our students. Not all students will join our program with the same long-term career goals, and we encourage our students to tailor the curriculum to their chosen career path. In addition to courses listed below, students can enroll in courses to support scientific writing, pedagogy, and/or business to position them for success after graduate school. Colloquium and seminar courses provide breadth of training through exposure to cutting-edge research across numerous health-related topics. Through coursework, internships, and research, our graduate students learn critical thinking, scientific inquiry, and practical applications to allow them to meet the demands of careers in academic science, biotech and pharma, healthcare, fitness, and athletics.

Faculty

Brandon Alderman, Ph.D., Arizona

Tracy Anthony, Ph.D., Illinois (Urbana-Champaign)

Jennifer Buckman, Ph.D., Oregon

Sara Campbell, Ph.D., Florida

Anthony Delli Paoli, Ph.D., Michigan

Katie Devine, Ph.D., Georgia

Ryan Dougherty, Ph.D., Wisconsin

Samantha Farris, Ph.D., Houston

Andrew Gow, Ph.D., Temple

Daniel Hoffman, Ph.D., Tufts

Erik Hummer, Ph.D., Tennessee

Peter Kokkinos, Ph.D., Maryland

Fangyu Liu, Ph.D., Johns Hopkins

Steven Malin, Ph.D., Massachusetts

Kenneth McKeever, Ph.D., Arizona

Sue Shapses, Ph.D., R.D., Columbia

Labros Sidossis, Ph.D., Texas

Andea Spaeth, Ph.D., Pennsylvania

Nathan Wages, Ph.D., Oklahoma

Carey Williams, Ph.D., Virginia Tech

Peixuan Zheng, Ph.D., Alabama

Degree Requirements

Degree Requirements

M.S. Requirements for Graduation

This thesis-track program focuses on coursework to support students with doctoral aspirations. The program is designed to broaden a student's knowledge base and introduce them to scientific research. It is an ideal program for students interested in pursuing a research career in academia or industry who lacks prior research experience that makes them eligible to directly apply to the doctoral program. The M.S. program is also an excellent opportunity for students uncertain of their career path. It offers numerous courses that can help direct students towards different careers. It also has a lower research burden than the doctoral program and students typically complete this degree in two years.

This track is best suited for students who are contemplating a career as an academic or industry scientist and who have an interest (or potential interest) in pursuing a doctoral degree. Graduation requires a minimum of 36 credits, which must include 30 course credits and 6 thesis/research credits. Core requirements comprise 16 of the required course credits and students can select electives (usually 4) that best align with their future education and career goals. This track requires a written research-focused thesis and oral defense.

Ph.D. Requirements for Graduation

This research-focused program prepares students to become independent scholars in a variety of conceptual areas that span physiological systems, metabolism, human behavior, and performance. A Ph.D. signifies that the holder is capable of original and ethical research in a particular field and of making a significant contribution to that field. To attain this degree, graduate students, guided by their own interests and by the expertise of their graduate mentors, develop an individual plan of study that includes conducting a research project from beginning to end. The research project culminates in a substantive body of work that is written into a dissertation and orally presented to the students and faculty of the program.

A minimum of 72 semester credits is required to earn a Ph.D. (32 course credits; 24 research credits; the remaining 16 credits may be earned from course work or research). Four major components must be completed satisfactorily to earn a doctoral degree, including:

- Core and elective coursework
- Qualifying process: comprehensive exam (written) and dissertation research proposal (oral)
- Substantive independent research
- Submission and oral defense of dissertation

The typical timeline to completion is approximately 5 years.

Kinesiology and Applied Physiology 572 (SGS-KAP)

Course Descriptions

Course Descriptions

16:572:501 ***Advanced Exercise Physiology (3)***
Analysis of acute and chronic adaptations to exercise, including in central, autonomic, endocrine, muscle, and skeletal systems as well as biochemical and metabolic adaptations and environmental factors that influence body responses. Physiological information is embedded in exercise training and performance theory.

16:572:502 ***Exercise Prescription and Programming (3)***
Applying physiological principles of exercise adaptations and skill development to optimally prescribe exercise to individuals across the lifespan and ability spectrum and create dynamic programming that helps the individual achieve their short- and long-term fitness goals. Methods of evaluating fitness are also discussed.

16:572:505 ***Fundamentals of Scientific Research (3)***
An interactive class designed to improve data literacy by exposing students to a wide array of published studies, discussing strengths and weaknesses of different study designs and sampling procedures. Learning to weigh evidence before disseminating it.

16:572:507 ***Metabolic Response to Exercise (3)***
Essential concepts of biochemistry--molecular biology, basic chemistry, metabolism, and transcription regulation--as applied to the exercising human, as well as current understanding of sports nutrition.

16:572:508 ***Psychophysiology (3)***
Methods-focused course that emphasizes non-invasive measurement of human cardiovascular and neural functioning. Includes introduction to theories, methods, data, and analytic strategies.

16:572:509 ***Nutrition in Sports and Exercise (3)***
The role of nutrition in sports performance. Macronutrient requirements for sport and the role carbohydrates, fats, and proteins play in fueling the body at rest and exercise. Topics include vitamins and minerals and certain nutritional concerns.

16:572:510 ***Clinical ECG Interpretation (3)***
Interpretation of the electrocardiogram (ECG) at rest and during an exercise stress test. Discussion of normal rhythms and common abnormal rhythms as well as the health implication of abnormal rhythms. Methods for obtaining accurate ECG data.

16:572:513 ***Exercise Epidemiology (3)***
Linking exercise and sedentary behaviors to chronic diseases such as cardiovascular diseases, diabetes, and obesity. Course also covers exercise metrics and co-occurring factors, such as medication use, on chronic disease risk.

16:572:514 ***Administration and Oversight - Clinical Setting (3)***
Focus on the principles and practices of working as part of an integrated healthcare team. Course topics will span legal and ethical considerations, working on a clinical team, program administration, and certification maintenance.

16:572:515 ***Administration and Oversight - Fitness Setting (3)***
Focus on the principles and practices of effective management in diverse fitness settings, including sports facilities, community centers, and commercial gyms. Course topics span facility design, financial budgeting, marketing, staff recruitment and management, and legal requirements.

16:572:516 ***Motor Control & Skill Acquisition (3)***
Immersion in the principles and theories of neuromuscular control and how movements are planned, executed, corrected, and maintained. Course material will cover a variety of populations and skill levels that will enable students to apply evidence-based practices to the teaching and coaching of diverse clients or athletes.

16:572:517 ***Biomechanics of Musculoskeletal Injuries (3)***
Developing understanding of biomechanics on a scientific and clinical basis. Focus is on dynamic aspects of the human body, examining function from a mechanical perspective, and mechanical dysfunction that results in injury. Interpreting scientific research relating to common musculoskeletal injuries. Deep knowledge of the dynamic movement that can be used as a foundation for improving form and safety during exercise.

16:572:518 ***Clinical Exercise Physiology Theory (3)***
Theoretical and practical knowledge about how exercise can be used to improve organ health. Review of the state-of-the-art methods to optimize health and performance, and measure outcomes from prescribed physical activities. Clinical perspectives on comorbidities, chronic disease, and disabilities are covered as are the roles of genetics, behavior, and stress on engagement in exercise.

16:572:519 ***Strength & Conditioning Theory (3)***
A course that synthesizes current knowledge of how exercise influences human physiology, cutting across endurance, resistance, flexibility, and plyometric modalities; best practices for testing strength and fitness, interpreting test outcomes, and creating programming to optimize anaerobic and aerobic adaptations to exercise. All elements of program design are covered, including exercise programming nutrition and related lifestyle considerations.

16:572:520 ***Colloquium (1)***
Students discuss research programs of scientists in the field and then invite the scientist to present a seminar followed by a student-led question and answer period.

16:572:521 ***Seminar in Health Physiology (1)***
A seminar to foster open and critical discussion of cutting-edge research in exercise science, particularly related to how exercise influences health. Topics include optimizing health through sport, maintaining health with formal and informal physical activity, and returning to health using exercise in injury and disease recovery.

16:572:522 ***Capstone Writing Workshop (3)***
The MS-ExSci program culminates in a 6-10 page written Capstone product. This workshop provides students with basic skills for professional and scientific writing, individual access to writing help and editing, as well as protected time to write.

16:572:602 ***Principles of Research and Scientific Writing for Health Sciences (3)***
This course aims to improve the chances of success in the health sciences by broadening knowledge of fundamental scientific roles and sharpening written and oral communication skills. The course focuses on topics most relevant to students pursuing careers in kinesiology – in academia, industry, and government sectors.

16:572:603 ***Statistics/Research Design for Exercise Science (3)***
This course blends lecture-based knowledge building with workshop-style hands-on training to develop statistical proficiencies for a wide range of health science research projects.

16:572:610 ***Advanced Applied Human Physiology 1 (3)***
This course is designed to provide an in-depth understanding of the cardiovascular, pulmonary, and nephrology physiological systems. Acute and chronic adaptations of these biological systems resulting from exercise training will also be discussed and emphasized.

16:572:611 ***Advanced Applied Human Physiology 2 (3)***
This course is designed to provide students with an extensive understanding of human physiology at the systems level with a focus on the mechanisms of normal organ function and the consequences of malfunction of the gastrointestinal, muscular, metabolic, endocrine and central nervous systems.

Landscape Architecture 550 (SGS-LARCH)

LANDSCAPE ARCHITECTURE 550

Degree Programs Offered: M.L.A.

Please visit the Landscape Architecture website.

Faculty

Richard Alomar, M.L.A., Louisiana

Myla Aronson, Ph.D., Rutgers

Anita Bakshi, Ph.D., Cambridge

Gerry Beegan, M.A., Middlesex (London)

Anette Freytag, Dr.Sc., ETH Zurich

Frank Gallagher, Ph.D., Rutgers

Jason Grabosky, Ph.D., Cornell

Wolfram Hoefer, Ph.D., Munchen (Germany)

Steven N. Handel, Ph.D., Cornell

Kathleen John-Alder, M.E.D., Yale

Julie Langsam, M.F.A., CUNY (Queens)

Laura Lawson, Ph.D., California (Berkeley)

Robin Leichenko, Ph.D., Pennsylvania State

Arianna Lindberg, Ph.D., Rutgers

Holly Grace Nelson, Ed.D., Rutgers

Angela Oberg, Ph.D., Rutgers

Karen O'Neill, Ph.D., California (Los Angeles)

Cymie Payne, J.D., California (Berkeley)

Trinidad Rico, Ph.D., Stanford

Mark Robson, Ph.D., Rutgers

Kimberly Russell, Ph.D., Tennessee

David Smith, M.S., Rutgers

Meredith Taylor, M.P.H., New York Medical College

Jacqueline Thaw, M.F.A., Yale

David Tulloch, Ph.D., Wisconsin

Daniel Van Abs, Ph.D., SUNY

Landscape Architecture 550 (SGS-LARCH)

Master of Landscape Architecture 1

Master of Landscape Architecture 1

The M.L.A. 1 program is designed to provide you with the knowledge and skills in landscape architecture to address the environmental challenges facing the world today. Our accredited professional master's in landscape architecture, the only accredited program in the State, is a 3-year program designed for people with an undergraduate degree in a different field. In the program you will learn to research, analyze, program, and design in the field of landscape architecture and all the skills required to communicate your ideas clearly (drawing, rendering, modelling and storytelling).

If you have a degree is in an allied field like ecology, environmental science, horticulture, plant science or architecture you may have some program courses waived. Make sure to ask when you apply.

Landscape Architecture 550 (SGS-LARCH)

Master of Landscape Architecture 2

Master of Landscape Architecture 2

The M.L.A. 2 program is designed for emerging and mid-career professionals with an undergraduate degree in landscape architecture wanting to advance knowledge and expertise in a specific field of interest. The 30-credit program is customized for you to focus on advancement of research, planning or environmental practices pertinent to your aspirations and career goals. Our distinguished faculty will guide your explorations and scholarly research the fields of community engagement and design, environmental justice, post-industrial landscapes, resiliency and climate adaptation, cultural landscape heritage, critical landscape theory, and ecological planning.

Landscape Architecture 550 (SGS-LARCH)

Degree Requirements M.L.A. 1

Degree Requirements M.L.A. 1

Course Sequence

Year 1 Fall

- 16:550:531 Studio (Fundamentals) (5 credits)
- 16:550:541 Representation I (2 credits)
- 16:550:552 Case Studies – Contemporary LA (3 credits)
- 11:550:233 Landscape Plants (3 credits)

Total Credits 13

Year 1 Spring

- 16:550:532 Studio (Urban/Suburban Design) (5 credits)
- 11:550:337 2D Digital Design & Drafting (3 credits)
- 16:550:551 Construction II: Materials and Assemblies (4 credits)
- 16:550:553 Theories of Landscape Architecture (3 credits)

Total Credits 15

Year 2 Fall

- 16:550:535 Studio—Housing and Open Space (5 credits)
- 16:550:561 Construction III: Design Doc & Admin (4 credits)
- Elective (3 credits)

Total Credits 12

Year 2 Spring

- 16:550:536 Studio—Special Topics (Praxis) (5 credits)
- 16:550:545 Introduction to Geomatics (3 credits)
- 16:550:582 Research Methods (2 credits)
- Elective (3 credits)

Total Credits 13

Year 3 Fall

- 16:550:533 Geodesign Studio (5 credits)
- 16:550:701 Thesis Research….by arrangement
    - or 550:538 Master's Research Project ….*by arrangement*
- 16:550:548 Landscape Plants II—ID & Design (2 credits)
- Elective (3 credits)

Total Credits 10

Year 3 Spring

- 16:550:536 Studio—Special Topics II *OR* 16:550:702 Thesis Research ….*by arrangement* (6 credits)
    - or 550:539 Master's Research Project ….*by arrangement* (6 credits)
- 16:550:572 Colloquium: Landscape Architecture (3 credits)
- 11:550:435 Professional Practice (1 credit)

Total Credits 10

Total number of credits – (typical of M.L.A. 1 programs): 73 credits

Landscape Architecture 550 (SGS-LARCH)

Degree Requirements M.L.A. 2/Dual-Degree

Degree Requirements M.L.A. 2/Dual-Degree

The post-professional program is geared towards professionals and recent landscape architecture graduates of accredited BLA or BSLA programs who are seeking to develop a specific skill or area of expertise in landscape architecture and affiliated disciplines. It takes advantage of Rutgers' vast academic resources to allow you to develop an interdisciplinary course of study to directly address your interests. The basic course of study requires a minimum of 30 credits, part time options are available.

Required Courses

- Research Methods (2 credits)
- Thesis Research (6 credits)
- Colloquium (3 credits)
- Expertise Courses (19 credits in graduate level courses)

Total number of credits: 30

A list of areas of interest and academic resources follow:

Areas of Interest

- Regional Design and Water Management
- Ecological Restoration and Wetlands
- GeoDesign and GIS
- Urban Forestry
- History and Theory
- Visualization and Representation
- Urban Design and Planning
- Residential Design
- Community Gardens
- Urban Agriculture
- Environmental Justice
- Participatory Design

- Green Infrastructure
- Post Industrial Sites

Academic Resources

- School of Environmental and Biological Sciences
- Bloustein School of Planning and Public Policy
- Mason Gross School of the Arts
- Office of Agriculture and Urban Programs
- Center for Urban Restoration Ecology
- Center for Remote Sensing and Spatial Analysis
- Center for Urban Environmental Sustainability
- Cultural Heritage and Preservation Studies
- Eagelton Institute of Politics
- Rutgers Climate Institute
- NJ Climate Change Alliance

Three examples for building your program of interest

Example: Post Industrial Sites and Green Infrastructure Focus

Expertise Courses

- 16:550:533 GeoDesign Studio (5 credits)
- 16:550:554 Concepts of Preservation and Design of Postindustrial Landscapes (3 credits)
- 16:550:536 Sustainability/Special Topics Studio (5 credits)
- 16:550:552 Landscape History II (3 credits)
- 11:550:442 Sustainable Landscape Technologies (3 credits)
- 16:375:534 Environmental Sustainability (3 credits)
- 34:970:622 Urban Redevelopment (3 credits)

Example: History of Design and Cultural Landscapes Focus

Expertise Courses

- 1 6:550:535 Housing and Open Space Studio (5 credits)
- 16:550:553 Theories of Landscape Architecture (3 credits)
- 16:550:552 Landscape History II (3 credits)
- 16:082:594 CHAPS: Significant Objects: Material Culture Studies
- and Cultural Heritage (3 credits)
- 16:082:603 CHAPS: Cemeteries, Monuments, and Memorials: Cultural Heritage and Remembering the Dead (3 credits)
- 34:970:652 Urban Political Theory (3 credits)
- 34:970:521 Historic Preservation (3 credits)
- 16:180:592 Green Infrastructure Water Mgt.
- 16:215:613 Urban Ecological Design Climate Change Res.

- 16:712:500 Coastal Climate Risk Resiliency

Example: Urban Agriculture

Expertise Courses

- 16:550:536 Regional/Special Topics Studio (5 credits)
- 16:550:545 Introduction to Geomatics (3 credits)
- 11:550:301 Social and Cultural Aspects of Design (3 credits)
- 11:550:442 Sustainable Landscape Technologies and Systems Design (3 credits)
- 16:215:520 Landscape Ecology (3 credits)
- 11:550:371 Agriculture and the Landscape (3 credits)
- 16:375:573 Soil Ecology (3 credits)

Course Descriptions

Course Descriptions

16:550:531 ***Studio One (5)***
Foundational design issues in landscape architecture, including space, form, meaning, context, and media. Principles of landscape composition, theories of landscape spatial design, and examples of recent work. Application of design principles to the design of small-scale public open spaces such as parks or plazas.

16:550:532 ***Studio Two (5)***
Landscape design applied to the design/rehabilitation of the urban/suburban landscape. Emphasis on social theory and practice, the role of policy and regulation, and the nature of urban/suburban ecology in making specific design proposals for multipurpose land uses.

16:550:533 ***Studio: Ecological Landscape Architecture (5)***
Ecological principles critical to landscape design; applications of ecological insight to design.

16:550:535 ***Studio: Housing and Open Space Studio (5)***
Design of the landscapes in which we reside across multiple scales of community; the private garden, social gathering spaces, and the neighborhood. Applications include residential site design and community layout.

16:550:536 ***Studio Special Topics (5)***
Individual work on a self-selected project supervised by members of the faculty.

11:550:337 ***2D Digital Design and Drafting (2)***
An introduction to digital representation, visual simulation, principles of graphic design, fundamentals of design communication, and methods for constructing three-dimensional digital models.

16:550:538 ***Master's Research Project (By Arrangement) (Fall)***

16:550:539 ***Master's Research Project (By Arrangement) (Spring)***

16:550:540/11:550:340 ***Planting Design (4)***
Students gain a functional understanding of plants as a design material and develop the ability to creatively design space and spatial relationships with plant material.

16:550:541 ***Representation I: Drawing (2)***
Presentation and communication techniques applicable to landscape architecture, including visualization skills and hand drawing. Subjects include free-hand sketching; plan, section, and orthogonal representation; diagramming and analysis mapping.

16:550:545 ***Introduction to Geomatics (3)***
New technologies to make better use of geospatial data for environmental and natural resource analysis and management. Basic concepts, definitions, and examples of different applications used in an environmental planning and management context.

16:550:548 ***Land Plants 2: ID and Design (2)***
Students gain a functional understanding of plants as a design material and develop the ability to creatively design space and spatial relationships with plant material. Learn how to research proper plant selection, design using appropriate plants, quantify and spatialize plants, use plants for aesthetic purposes and amplify landscape performance.

16:550:551/11:550:341 ***Construction 2: Materials and Assemblies (4)***
In the construction sequence, the installation of landscape materials follows broader site preparations and develops out of the general design into specific expressions of function, use and appearance. This course forms a critical link between conceptual design and construction documentation, as it will develop the skills needed to translate idea into successfully built and evocative spaces for living.

16:550:552/11:550:440 ***Case Studies in Contemporary Landscape Architecture: 1850 to Present (3)***
Historical analysis of landscape architecture theory and practice since 1850, beginning with Frederick Law Olmsted and including modernist and contemporary works. Topics covered include the works of Olmsted, Rose, Kiley, Eckbo, Halprin, McHaarg, Schwartz, Walker, and others.

16:550:553 ***Theories of Landscape Architecture (3)***
Major ideas and thinking behind the formation of designed landscapes. Topics include conceptions of nature, aesthetics, the garden, space, landscape perception, public landscapes, sustainability, and ecological and regenerative design.

16:550:555 ***Land Planning Theories and Practice (3)***
Analysis, interpretation, and proposals for solutions to regional-scale landscape planning problems, with emphasis on methodologies such as GIS, suitability mapping, and visual resource management as applied to land planning, design, and management problems

16:550:561/11:550:441 ***Construction 3: Design Documentation and Administration (4)***
The final course in the Landscape Architecture construction sequence takes a project from existing conditions to schematic construction drawings based on a design concept, performance requirements, and scope of work. Learn the construction drawing production and administration process, simulating the dynamics, structure, and requirements of a professional office.

16:550:572 ***Colloquium in Landscape Architecture (3)***
A forum for discussing thesis and terminal project presentations as well as scholarly and creative activity of faculty members and regional professionals.

16:550:582 ***Research Methods for Landscape Architecture (2)***
Introduction to traditions of scholarship, research approaches, and theories. How different methods are applied to a variety of research topics.

16:550:600 ***Independent Study in Landscape Architecture (credits by arrangement)***

16:550:640 ***Vibrant Communities and Sustainable Landscapes (3)***
Community fieldwork and building community design skills. Work with a corporate partner and local community to design and build a sustainable landscape in New Jersey.

16:550:701 ***Research in Landscape Architecture (By Arrangement) (Fall)***

16:550:702 ***Research in Landscape Architecture (By Arrangement) (Spring)***

16:550:800 ***Matriculation Continued***

Landscape Architecture 550 (SGS-LARCH)

List of Courses

List of Courses

16:550:531 Studio One—Fundamentals (5) - Fall

16:550:532 Studio Two—Urban/Suburban Design (5) - Spring

16:550:533 Geodesign Studio (5) - Fall

16:550:535 Studio—Housing and Open Space (5) - Fall

16:550:536 Studio—Special Topics: EC, CD, OD (5) - Spring

16:550:538 Master's Research Project (By Arrangement) - Fall

16:550:539 Master's Research Project (By Arrangement) - Spring

16:550:540/11:550:340 Planting Design (4) - Spring

16:550:541 Representation I—Drawing (2) - Fall

16:550:542 Representation II—Digital Media (2) – Spring

16:550:545 Introduction to Geomatics (3) - Spring

16:550:548 Land Plants 2—ID & Design (2) - Fall

16:550:551/11:550:341 Construction 2: Materials and Assemblies (4) - Spring

16:550:552 Case Studies in Contemporary LA (3) - Fall

16:550:553 Theories of Landscape Architecture (3) - Spring

16:550:554 Pres Design Post Indust (3)

16:550:555 Land Planning T & P (3)

16:550:561/11:550:441 Construction 3: Design Documentation and Administration (4) - Fall

16:550:572 Colloquium Landscape Architecture (3) - Spring

16:550:582 Research Methods (2) - Spring

16:550:600 Independent Study in Landscape Architecture (By Arrangement)

16:550:640 Vibrant Communities and Sustainable Landscapes (3) - Spring

16:550:701 Research in Landscape Architecture (By Arrangement) – Fall

16:550:702 Research in Landscape Architecture (By Arrangement) – Spring

16:550:800 Matriculation Continued

Landscape Architecture 550 (SGS-LARCH)

International Students

International Students and Students with Degrees in Related Fields

Our M.L.A. students represent a diverse group of people contributing their insight to studio, construction and research work in the department. International students are encouraged to apply to enrich theirs and well as their cohort's experience and knowledge. Applicants with degrees in an allied field may have equivalent courses waived. The mandatory placement test will determine if an international student should take 16:356:531 Academic Writing 1 or 16:356:532 Academic Writing 2.

Linguistics 615 (SGS-LING)

LINGUISTICS 615

Degree Programs Offered: Ph.D.

Please visit the Linguistics website.

Faculty

Dorothy Ahn, Ph.D., Harvard

Akinbiyi Akinlabi, Ph.D., Ibadan

Mark Baker, Ph.D., Massachusetts Institute of Technology

Adam Jardine, Ph.D., Delaware

Maria Kouneli, Ph.D., New York University

Adam McCollum, Ph.D., California (San Diego)

Troy Messick, Ph.D., Connecticut

Ryan Walter Smith, Ph.D., Arizona

Kristen Syrett, Ph.D., Northwestern

Bruce Tesar, Ph.D., Colorado

Yimei Xiang, Ph.D., Harvard

Associate Faculty

Joseph Casillas, Ph.D., Arizona

Young-mee Cho, Ph.D., Stanford

Michael Glanzberg, Ph.D., Harvard

Julien Musolino, Ph. D., Maryland (College Park)

Paul Pietroski, Ph.D., Massachusetts Institute of Technology

Matthew Stone, Ph.D., Pennsylvania

Karin Stromswold, Ph.D., Massachusetts Institute of Technology

Linguistics 615 (SGS-LING)

Degree Requirements

Degree Requirements

Ph.D. Curriculum

The program is structured by the guiding idea that linguistics is a unified discipline, with cross-fertilization between sub-disciplines a major source of growth and innovation. Students study each of the three core areas intensively over the first year and a half, and then specialize according to their interests.

From the start, the curriculum is designed to facilitate original research: in addition to course-related work, students present two qualifying papers, written in close consultation with faculty, one at the end of the second year, the other at the end of the third year. Dissertation research and writing take up the fourth and fifth years. Students are encouraged to gain expertise in other areas related to linguistics. Many students work closely with faculty

in Cognitive Psychology, Philosophy, or Computer Science. The Center for Cognitive Science (RuCCS) supports a Cognitive Science Certificate Program to be pursued alongside the Ph.D., which offers special opportunities for research in psycholinguistics and computational linguistics.

- Graduate courses are listed here.
- The learning goals and assessment are listed here.
- The formal requirements are detailed below.

Formal Requirements

The requirements stated below apply to all graduate students entering the Linguistics Ph.D. Program in Fall 2021, or subsequently (the curriculum requirements applying to previous classes of Ph.D. students are available here).

A. Course Work

The Ph.D. program requires completion of 15 courses, as follows:

Students are required to take 2 courses (I and II) in each of the three core theoretical areas (Phonology, Semantics, Syntax) by the end of Year 2 (6 total courses). (Note: deferring I-level courses to Year 2 requires approval of the Graduate Program Director and the Graduate Faculty.)

Students are required to take **2 out of 3 'Methods' courses** by the end of Year 3: Experimental methods, Field methods, and Computational methods.

- These courses are not strictly speaking 'methods' courses; they are any courses that are taught primarily in this area, with a significant 'hands-on' component in data collection and analysis (from an Experimental, Computational, or Fieldwork perspective/approach).
- Students may take more than one course within a method area (e.g., a student interested in Psycholinguistics could take multiple 'Experimental methods courses' such as laboratory phonology, acquisition, or sentence processing).
- Coverage of these courses will be represented across various faculty, ensuring diversity in approaches and content (e.g., a 'Fieldwork methods' course could be taught by a phonologist or syntactician; a 'Computational methods' course could be taught by a semanticist or a phonologist; an 'Experimental methods' course could be taught by a laboratory phonologist, an acquisitionist, or an experimental semanticist).

Students are required to register for Qualifying Paper Workshop (QPW) in the Fall of Year 2 and the Spring of Year 2. (This course will continue to incorporate professional development and research training, and may be re-pitched and re-labeled as such, instead of 'Qualifying Paper Workshop.')

Students must take **5 additional 3-credit courses** (not research or independent study credits) by the end of year 4. This can include courses of the following types:

- "Faculty-chosen specialty topic" seminars
- "Current topics in subarea X" courses
- Additional methods courses
- Up to 2 courses from other departments, or other universities (e.g., NYU), subject to the approval of the Graduate Program Director

Summary of these requirements, and a typical trajectory through the Ph.D. program:

YEAR 1: Coursework

- Fall semester: Syntax I, Phonology I, Semantics I (with possibility of delaying one to Year 2 to take a Methods course or another course (e.g., Statistics); as stated above, this requires approval of the Graduate Program Director and the Graduate Faculty)
- Spring semester: Syntax II, Phonology II, Semantics II (with possibility of delaying to Year 2 to take a Methods course or another course (e.g., Statistics))

YEAR 2: Coursework, Qualifying Paper 1

- Fall semester: QPW, possibility of one I-level course, Methods course, or another course (e.g., Statistics)
- Spring semester: QPW, possibility of Syntax II, Phonology II, Semantics II, Methods course, or another course

YEAR 3: Further coursework, Qualifying Paper 2

- Fall semester: TA for 201
- Spring semester: teach 201

YEARS 4-: Further coursework, Dissertation, Additional Teaching (if applicable)

IMPORTANT: On obtaining a Pass on BOTH QPs and completing the 15 courses required by the Linguistics Department, students must file the appropriate paperwork with the Graduate School for Admission to Candidacy. The Graduate School requires Admission to be completed at least two semesters prior to the Dissertation defense.

A full course load is 9 credits per semester. Students can register for up to 12 credits with the permission of the GPD.

The Graduate School requires a minimum of 72 credits for a Ph.D. degree, divided into 48 course credits and 24 research credits. (Note: earning 48 credits requires an additional 3-credit course to be taken beyond the 15 courses required by the Linguistics Department.)

TAs receive 6 credits towards their minimum workload for each semester.

B. Qualifying Papers

Students are required to write two Qualifying Papers (QPs): one in the second year, and the other in the third year.

The QPs must be in distinct areas and use different methodological approaches.

Each QP must be defended before a Qualifying Paper committee, which assigns the QP one of two grades: Pass or Fail.

The committee comprises three members of the Graduate Faculty for Linguistics (Full Members of the Linguistics Department and Associate Members from other departments). Prior approval of the Graduate Program Director is needed to include members from outside the Graduate Faculty for Linguistics. Of these, the chair and at least one other member, must be full members of the Linguistics Department.

The timeline for the first two QPs, including key deadlines, is presented in the following table:

FALL SEMESTER	SPRING SEMESTER
By Oct. 1 Identify committee Chair and get QP topic approved by Chair	By May 1 Submit final QP draft to committee
By Dec. 1 Form a committee of 3 Graduate Faculty	By May 15 Defend QP before committee
By Dec. 15 Discuss a written QP proposal with committee	-

On obtaining a Pass on BOTH QPs and completing the contentful course requirement discussed in (A), students must file the appropriate paper work with the Graduate School for Admission to Candidacy. The Graduate School requires Admission to be completed at least two semesters prior to Dissertation defense.

C. Dissertation

Ph.D. students are required to write a dissertation.

The dissertation must be defended before a Dissertation committee, which will assign one of two grades: Pass or Fail. The committee compromises three internal members and one external member.

The three internal members must belong to the Graduate Faculty for Linguistics (Full Members of the Linguistics Department and Associate Members from other Departments). Of these, the chair and at least one other member must be full members of the Linguistics Department.

The fourth member must be from outside the Graduate Faculty for Linguistics

Beginning in Year 4, the following steps are involved in the Dissertation process:

By September 30 of year 4: Form a committee of at least three faculty members, including one designated as Chair

By the end of the Fall semester of year 4: Defend a dissertation proposal before the committee, and obtain a Pass on it

By the end of Spring semester of year 4: Add an external committee member. The appointment has to go through the Graduate Program Director and needs the approval of the chair of the Dissertation committee.

By the end of Spring semester of year 5: Defend the dissertation before the committee (the external member may be absent), and obtain a Pass from all the four members.

The Graduate School requires that the dissertation be completed within 7 years of entry into a program, with the proviso that the candidate must apply for 1-year extensions thereafter. The Linguistics Department will grant no more than three such extensions, except in the most extraordinary circumstances. Students must make a formal request for extension to the Graduate Program Director at least two months in advance.

D. Language Requirement

There is no formal language requirement. Students without sufficient exposure to languages other than English are vigorously encouraged to take appropriate measures to correct this.

E. Standing in the Ph.D. Program

The faculty will meet each semester to discuss student progress. For each student the faculty will decide whether the student's current standing is Satisfactory or Unsatisfactory (otherwise). This decision will represent the overall assessment by the faculty and will be based on all aspects of the student's work, including the completed course work, any incompletes (how many and why), progress on the qualifying papers, dissertation research, and any other relevant factors.

For any student in unsatisfactory standing the faculty will further decide on the appropriate course of action. Normally, this will be either (a) or (b):

(a) the student may be allowed to continue in the program, subject to meeting specified conditions for regaining satisfactory standing by a specified deadline;

(b) alternatively, the faculty may decide that option (a) is not feasible. Normally, this will imply that the student cannot continue in the Ph. D. program. However, the student may still be awarded a terminal M.A. degree at the discretion of the department.

Reporting on these decisions, the Graduate Director will write a letter of standing to each student every semester. The letter will inform the student about his or her current standing as well as any recommendations made by the faculty at the meeting. Furthermore, if the student is in unsatisfactory standing, the letter will also convey the faculty decisions in regards to the aforementioned points discussed above, as appropriate.

Course Descriptions

Course Descriptions

16:615:510 ***Syntax I (3)***
Introduction to syntactic theorizing and analysis. Provides fundamental background in phrase structure theory, predicate argument structure, grammatical function changing, conditions on anaphora, case marking, thematic roles, and long-distance dependencies.

16:615:511 ***Syntax II (3)***
Intermediate-level discussion of major issues in syntactic theory, including theories of parametric variation, logical form and levels of grammar, and components and subtheories of grammar.
Prerequisite: 16:615:510.

16:615:515 ***Seminar in Syntax (3)***
Advanced-level discussion of current issues in syntactic theory. Topics vary.
Prerequisite: 16:615:511 or permission of instructor.

16:615:520 ***Phonology I (3)***
Introduction to major phonological phenomena and concepts of current theory, with emphasis on the development of analytical skills.

16:615:521 ***Phonology II (3)***
In-depth investigation of leading issues in current theory, with focus on the structure of representations and the organization of the phonological component of the grammar.
Prerequisite: 16:615:520.

16:615:525 ***Seminar in Phonology (3)***
Exploration of a special topic arising from current research in phonological theory.
Prerequisite: 16:615:521 or permission of instructor.

16:615:530 ***Semantics I (3)***
Introduction to model-theoretic semantics. Topics include elementary set theory, predicate logic, and their applications in the analysis of major semantic phenomena.

16:615:531 ***Semantics II (3)***
Mathematical tools for relating syntactic structure to semantic interpretation. Topics include higher-order logic, lambda calculus, intensional logic, type theory, type-driven translation, type lifting, and lattices.
Prerequisite: 16:615:530.

16:615:535 ***Seminar in Semantics (3)***
Exploration of current issues in semantic theory. Topics vary.
Prerequisite: 16:615:531 or permission of instructor.

16:615:540 ***Phonetics (3)***
An introduction to phonetic concepts, theories, and techniques; basic issues in articulatory, acoustic, and perceptual phonetics.

16:615:545 ***Seminar in Phonetics (3)***
Advanced topics in phonetics and phonetics-phonology interface: topics vary.

16:615:610 ***Formal Methods (3)***
Selected topics in logic, algebra, formal languages, computation, mathematical analysis, statistics, and/or formal learning theory, with applications to linguistics.
Prerequisites: 16:615:511, 521, 531, or permission of instructor.

16:615:620 ***Experimental Methods (3)***
An introduction to experimental linguistics, covering topics such as the formulate of research questions and testable hypotheses, experiment design, experimental methodologies across and within subfields, the nature of data, data collection practices, approaches to data analysis and visualization, and how and where to present experimental findings.

16:615:631 ***Field Methods for Linguistics (3)***
Analysis of the linguistic structure of an unfamiliar language, based on in-class work with a native-speaker consultant.
Prerequisites: 16:615:511, 521, 531, or permission of instructor.

16:615:660 ***Special Topics in Current Linguistic Theory (3)***
Topics in current linguistic research that cross subdisciplinary boundaries.
Prerequisites: 16:615:511, 521, 531, or permission of instructor.

16:615:670 *Seminar in Learnability and Linguistic Theory (3)*
Examines approaches to language learning, focusing on relationships between learning proposals and linguistic theory. Includes concepts from computational learning theory relevant to understanding the learning implications of contemporary linguistic theory.
Prerequisite: 16:615:520 or permission of instructor.

16:615:690,691 *Qualifying Paper Workshop (3,3)*
Students working on qualifying papers present work in progress for discussion and criticism.
Prerequisites: 16:615:511, 521, 531.

List of Courses

List of Courses

16:615:510 Syntax I (3)

16:615:511 Syntax II (3)

16:615:515 Seminar in Syntax (3)

16:615:520 Phonology I (3)

16:615:521 Phonology II (3)

16:615:525 Seminar in Phonology (3)

16:615:530 Semantics I (3)

16:615:531 Semantics II (3)

16:615:535 Seminar in Semantics (3)

16:615:540 Phonetics (3)

16:615:545 Seminar in Phonetics (3)

16:615:610 Formal Methods (3)

16:615:620 Experimental Methods (3)

16:615:631 Field Methods for Linguistics (3)

16:615:660 Special Topics in Current Linguistic Theory (3)

16:615:670 Seminar in Learnability and Linguistic Theory (3)

16:615:690,691 Qualifying Paper Workshop (3,3)

Management 620 (SGS-MANAGEMENT)

MANAGEMENT 620

See the Management 620 program page in the Graduate School-Newark section of the Newark Graduate catalog.

Materials Science and Engineering 635 (SGS-MSENG)

MATERIALS SCIENCE AND ENGINEERING 635

Degree Programs Offered: M.S./Ph.D.

Please visit the Materials Science and Engineering website.

Graduate Degrees

We offer graduate degrees that reflect individual student goals from career advancement to research intensive.

Master of Science Degree

There are two different approaches to earning an M.S. in Materials Science and Engineering: a taught master's and a research master's.

For research degrees we are looking for students who have a passion for original, independent research.

For the taught master's degree we are looking for students interested in advancing their knowledge and understanding of materials science and engineering. The students may be local, U.S. based, or international. Options for part-time study for students in industry or at government labs is also possible.

The taught track includes the completion of a written literature review paper and an oral presentation. The research track includes a research thesis paper and oral defense.

Doctoral Degree

The Materials Science and Engineering department offers a Ph.D. degree track. The degree is usually done on a full time basis and requires four to five years, part-time study is also possible, but this can take significantly longer and is highly dependent on the individual student's circumstances.

Like the MS, the core curriculum for the Ph.D. covers the key topics in materials: thermodynamics; kinetics; solid state theory; mechanical properties. In addition to these classes, there are many elective courses in characterization of materials and advanced technological applications of materials.

Accelerated Bachelor of Science/Master of Science Degree (B.S./M.S.)

The combined B.S./M.S. program enables top Rutgers undergraduate engineering students to be accepted into our graduate programs in an expedited way. In addition, it gives those students the possibility to receive a master's degree in a shortened time frame.

Faculty

Enver Akdogan, Ph.D., Rutgers

Glenn Amatucci, Ph. D., Rutgers

Dunbar Birnie, III, Ph.D., Massachusetts Institute of Technology

Hong Fang, Ph.D., Cambridge

Stephen Garofalini, Ph.D., Stanford

Ashutosh Goel, Ph.D., Aveiro (Portugal)

Lisa Klein, Ph.D., Massachusetts Institute of Technology

Richard Lehman, Ph.D., Rutgers

Adrian Mann, Ph.D., Oxford (UK)

Aaron Mazzeo, Ph.D., Massachusetts Institute of Technology

Thomas Nosker, Ph.D., Rutgers

Deirdre O'Carroll, Ph.D., University College Cork (Ireland)

Seongshik Oh, Ph. D., Illinois (Urbana)

Shriram Ramanathan, Ph.D., Stanford

Amin Reihani, Ph.D., Michigan (Ann Arbor)

Richard Riman, Ph.D., Massachusetts Institute of Technology

Ahmad Safari, Ph.D., Pennsylvania

David Salas-de la Cruz, Ph.D., Pennsylvania

Ryan Sills, Ph.D., Stanford

Jonathan Singer, Ph.D., Massachusetts Institute of Technology

Thomas Tsakalakos, Ph.D., Northwestern

Materials Science and Engineering 635 (SGS-MSENG)

Master's Degree Requirements

Master's Degree Requirements

Students must complete 30 credits. A final presentation of a paper in front of a faculty committee is required. The topic of the paper must be within the field of Materials Science and Engineering. The curriculum for a 30 credit taught M.S. program that runs over 12-24 month period.

Fall Semester
Students typically take 9 credits but may take up to 15 credits.

Core Courses
Students register for:
635:527 Thermodynamics of Materials Systems (3 credits)
635:513 Mechanical Behavior of Materials (3 credits)

Elective Courses Include
Students choose 1, 2 or 3 of the following:
635:505 Advanced Optical Materials (3 credits)
635:525 Properties of Materials Surfaces (3 credits)
635:529 Applied Colloid and Surface Chemistry (3 credits)
635:570 Solar Cell Design and Processing (3 credits)
635:601 Materials Seminar (1 credit) *

Spring Semester
Students typically take 9 credits but may take up to 15 credits.

Core Courses
Students register for:
635:503 Theory of Solid State Materials (3 credits)
635:532 Kinetics of Materials Systems (3 credits)

Elective Courses Include
Students choose 1, 2 or 3 of the following:
635:506 Advanced Glass (3 credits)
635:509 Advanced Electroceramics (3 credits)
635:516 Molecular Behavior or Glasses (3 credits)
635:524 Advanced Materials Characterization (3 credits)
635:528 Modern Electrochemistry (3 credits)
635:602 Materials Seminar (1 credit) *

***Note:** M.S. students may take a maximum of 3 credits of Materials Seminar

Summer Session
Students may take 3 to 6 credits.

635:603 Special Problems in Materials (credits vary)
635:604 Special Problems in Materials (credits vary)
Any graduate level class offered at Rutgers-New Brunswick (one 3 credit course per summer)

Final Paper
Write and present a review paper on a specific topic in Materials Science and Engineering.

Credits Outside MSE Graduate Program**

Students are permitted to take a small number of courses for credit outside of our graduate program, for instance:

- Graduate courses offered by other programs at Rutgers – always check with course lecturer first (BME, CBE, MAE, ECE, Physics, Chemistry),
- MSE advanced undergraduate courses – always check with course lecturer first (examples are 14:635:433 Optical Materials, 14:635:312 Glass Engineering,…others),
- Transferred credits from other institutions – check with graduate program director (typically from prior graduate level study).

****Note:** Maximum allowed is 12 credits for taught M.S.

Materials Science and Engineering 635 (SGS-MSENG)

Ph.D. Degree Requirements

Ph.D. Degree Requirements

The Ph.D. requires 36 credits of academic courses and 36 research credits. A written doctoral thesis is required. The Ph.D. degree is usually done on a full time basis and requires four to five years.

Completing the Ph.D. is a multi-step process that requires the candidate to pass a qualifying exam after a year of studying. After the qualifying exam a thesis proposal is given by the candidate to their Ph.D. thesis committee, typically after two years of study. The Ph.D. culminates with a written doctoral thesis and the candidate doing a defense of their research to an audience of faculty and students. This is followed by a closed question and answer session with the Ph.D. thesis committee.

For a Ph.D. the student must:

- Have a research advisor who is a member of the MSE program's Graduate Faculty
- Have a research project relevant to the MSE graduate program
- Take a total of 36 research credits
- Take a total of 36 taught credits
- Pass a Ph.D. qualifying exam on the core courses after year one
- Write and present a Ph.D. thesis proposal (usually at the end of the second year)
- Write a Ph.D. thesis and defend their research in front of peers and a thesis committee

The Ph.D. takes 4 to 5 years with a combination of taught and research credits being taken each year.

Example First Year

Core courses (most students will take these):

635:527 Thermodynamics of Materials Systems (3 credits) 635:513 Mechanical Behavior of Materials (3 credits) 635:503 Theory of Solid State Materials (3 credits) 635:532 Kinetics of Materials Systems (3 credits)

Elective courses (students typically take 2 or 3 of these):

635:505 Advanced Optical Materials (3 credits)

635:525 Properties of Materials Surfaces (3 credits)

635:529 Applied Colloid and Surface Chemistry (3 credits)

635:601 Materials Seminar (1 credit)*

635:701 Research in Materials (1 to 6 credits)

635:506 Advanced Glass (3 credits)

635:509 Advanced Electroceramics (3 credits)

635:516 Molecular Behavior or Glasses (3 credits)

635:524 Advanced Materials Characterization (3 credits)

635:528 Modern Electrochemistry (3 credits)

635:602 Materials Seminar (1 credit)*

635:702 Research in Materials (1 to 3 credits)

Second and Subsequent Years

Students take approximately 9 credits per semester of electives to get to a total of 36 taught credits plus 635:701 and 635:702 "Research in Materials" to reach their total of 36 research credits.

Course Descriptions

Course Descriptions

Core Courses

16:635:513 ***Mechanical Behavior of Materials (3)***
Mechanical behavior and properties of a diverse range of materials, emphasizing fracture, microstructure, and environment. Differences in plastic behavior and elastic behaviors related to creep, wear resistance, and hardness.

16:635:527 ***Thermodynamics of Materials Systems (3)***
Emphasis on special thermodynamic considerations for oxides and nonoxides: chemical thermodynamics; solution thermodynamics; and thermodynamics related to phase diagrams, surfaces, and point defects.

16:635:503 ***Theory of Solid-State Materials (3)***
Dispersion theory: Theory of linear dielectrics, the classical theory of electrical conduction, equivalent circuits, and plasma oscillations;
Elements of Quantum Mechanics: Electrical conduction in solids, quantum mechanical oscillator, tunneling phenomena, band theory of solids;
Elements of Statistical Mechanics: Boltzmann, Bose-Einstein, and Fermi-Direct statistics, Bose-Einstein condensation.
Superconductivity: Thermodynamics of superconductivity, London-London Theory, Landau-Ginzburg Theory.
Ferroelectricity (time permitting): Thermodynamics of nonlinear dielectrics, Landau-Ginzburg-Devonshire theory of ferroelectricity.

16:635:532 *Kinetics of Materials Systems (3)*
Diffusion in solids. Solutions to Fick's first and second laws under important boundary conditions. Ionic diffusion. Diffusion applied to sintering. Solid-state reaction kinetics. Nucleation, crystal growth, and precipitation.

Elective Courses

The following is a complete list of graduate level elective courses that are offered in the Department of Materials Science and Engineering. Not all courses will be offered each semester.

635:505 Advanced Optical Materials (3)
Electromagnetic radiation; Maxwell's Equations and the wave equations; light-material interactions; reflection, scattering, transmission, absorption, refraction, diffraction, interference; Lorentz Oscillator Model; Drude Model; electric dipole oscillators; Fresnel Equations; optical components; optical properties of glasses (oxide, fluoride, chalcogenide); optical properties of polymers; optical properties of crystals; polarization and birefringence; photonics; excitons; quantum confinement; inorganic semiconductors, organic semiconductors; optical modelling and simulations; optoelectronic materials and devices (photodetectors, solar cells, LEDs, OLEDs, lasers).

635:506 Advanced Glass (3)
The first part of the course discusses the fundamentals of glass science, for example, volume–temperature diagram, batch components and calculations, structural theories of glass formation, phase separation and crystallization, etc. In the second part, these fundamentals are used as the foundation to understand the design of functional glasses for technological applications, for example, Gorilla Glass (the screen of iPhone), window glass, optical fibers, glass–to–metal/ceramic sealants, artificial teeth, bioactive glasses, and nuclear waste glasses.

635:509 Advanced Electronic Materials (3)
Electrical, optical, and magnetic properties of materials based on their electronic structure, defect chemistry, and transport processes.

635:516 Molecular Behavior or Glasses (3)
Atomic structure and properties of non-crystalline solids. Molecular mechanisms of macroscopic behavior. Topics include nature of the glass transition, structure/composition relations in oxide glasses, diffusion, and glass surfaces and interfaces.

635:524 Advanced Materials Characterization (3)
Instrumental techniques for characterization of materials and the study of processing and properties, including absorption and emission spectroscopy, FTIR and Raman spectroscopy, secondary ion mass spectrometry, XPS scanning Auger microscopy, and neutron scattering.

635:525 Properties of Materials Surfaces (3)
Surface structure of oxide and non-oxide materials, absorption, surface diffusion, and thin films.

635:528 Modern Electrochemistry (3)
Electrochemistry and electrochemical materials science of advanced batteries, fuel cells, and sensors for industrial, environmental, and biomedical applications. Electrochemical methods and techniques.

635:529 Applied Colloid and Surface Chemistry (3)

Colloid or surface chemistry in solvent-based systems; characterization of colloid systems using direct and indirect methods. Thermodynamic treatments of surfaces, adsorption, and charged interfaces. Structural models incorporating neutral and charged adsorbates; various means of stabilizing and destabilizing colloids.

635:570 ***Solar Cell Design and Processing (3)***
This course will cover principles of photovoltaic solar cells and build from that foundation to discuss how these principles guide solar cell design. Significant time will be devoted to the wide variety of processing methods that are utilized for making different kinds of solar cells. Lecture format with occasional hands-on, in-class activities to emphasize solar cell design. Design contest to emphasize current/voltage trade-offs encountered in solar cell optimization and the role that processing choices can play in improving system efficiency.

635:601 ***Materials Seminar (1)***
Current areas of materials research studied and discussed in the Fall semester.

635:602 ***Materials Seminar (1)***
Current areas of materials research studied and discussed in the Spring semester.

635:603 ***Special Problems Materials (1-3)***
Individual or group study or study projects, under the guidance of a faculty member, on special areas of interest in materials science and engineering. Conducted in the Fall semester.

635:604 ***Special Problems Materials (1-3)***
Individual or group study or study projects, under the guidance of a faculty member, on special areas of interest in materials science and engineering. Conducted in the Spring semester.

635:701 ***Research in Materials (1-6)***
Independent, original graduate-level research under the guidance of a MSE graduate faculty member in the Fall semester.

635:702 ***Research in Materials (1-6)***
Independent, original graduate-level research under the guidance of a MSE graduate faculty member in the Spring semester.

Materials Science and Engineering 635 (SGS-MSENG)

List of Courses

List of Courses

Core Courses

16:635:503 Theory of Solid-State Materials (3 credits)
16:635:513 Mechanical Behavior of Materials (3 credits)
16:635:527 Thermodynamics of Materials Systems (3 credits)
16:635:532 Kinetics of Materials Systems (3 credits)

Elective Courses

635:505 Advanced Optical Materials (3 credits)
635:506 Advanced Glass (3 credits)
635:509 Advanced Electronic Materials (3 credits)
635:516 Molecular Behavior or Glasses (3 credits)
635:524 Advanced Materials Characterization (3 credits)
635:525 Properties of Materials Surfaces (3 credits)
635:528 Modern Electrochemistry (3 credits)
635:529 Applied Colloid and Surface Chemistry (3 credits)
635:570 Solar Cell Design and Processing (3 credits)
635:601 Materials Seminar (1 credit)
635:602 Materials Seminar (1 credit)
635:603 Special Problems Materials (1 to 3 credits)
635:604 Special Problems Materials (1 to 3 credits)
635:701 Research in Materials (1 to 6 credits)
635:702 Research in Materials (1 to 6 credits)

Mathematics 640, 642, 643 (SGS-MATH)

MATHEMATICS 640, 642, 643

Degree Programs Offered: M.S., Ph.D.

Please visit the Mathematics website.

Program Description

The Math Graduate Program is a rigorous program consisting of extensive course work and original research in one of the department's many fields of expertise.

Campus Locations

Busch Campus - New Brunswick

Members of the Graduate Faculty

Eric Allender, Distinguished Professor of Computer Science, SAS; Ph.D., Georgia Institute of Technology
Complexity theory; parallel and probabilistic computation

Tadeusz Balaban, Professor Emeritus of Mathematics, SAS; Ph.D., Warsaw
Mathematical physics

R. Michael Beals, Distinguished Professor Emeritus of Mathematics, SAS; Ph.D., Princeton
Harmonic analysis; Fourier integral operators; partial differential equations

József Beck, Harold H. Martin Professor Emeritus of Mathematics, SAS; Ph.D., Hungarian Academy of Sciences
Combinatorics; combinatorial games; number theory

Adi Ben-Israel, Distinguished Professor of Management, RBS; Ph.D., Northwestern
Matrix theory; numerical linear algebra; convexity and optimization operations research; mathematical economics

Lev A. Borisov, Professor of Mathematics, SAS; Ph.D., Michigan
Algebraic geometry and related areas

Anders Buch, Professor of Mathematics, SAS; Ph.D., Chicago
Algebraic geometry; combinatorics

Fioralba Cakoni, Distinguished Professor of Mathematics, SAS; Ph.D., Tirana and Patras (Greece)
Partial differential equations; inverse problems; scattering theory

Filippo Calderoni, Assistant Professor of Mathematics; Ph.D., Turin (Italy)
Mathematical logic, set theory, infinite group theory

Lisa Carbone, Professor of Mathematics, SAS; Ph.D., Columbia
Infinite dimensional groups and algebras; applications to number theory and physics

Eric Anders Carlen, Distinguished Professor Emeritus of Mathematics, SAS; Ph.D., Princeton
Mathematical physics; functional analysis and probability

Swee Hong Chan, Assistant Professor of Mathematics, SAS; Ph.D., Cornell
Combinatorics and Probability

Sagun Chanillo, Distinguished Professor of Mathematics, SAS; Ph.D., Purdue
Classical analysis; partial differential equations

Gregory L. Cherlin, Distinguished Professor Emeritus of Mathematics, SAS; Ph.D., Yale
Logic; model theory; model theoretic algebra

Duiliu-Emanuel Diaconescu, Professor of Physics and Astronomy, SAS; Ph.D., Rutgers
String theory; algebraic geometry

Richard S. Falk, Distinguished Professor Emeritus of Mathematics, SAS; Ph.D., Cornell
Numerical analysis; partial differential equations

Martin Farach-Colton, Professor of Computer Science, SAS; Ph.D., Maryland
Computational molecular biology; sequential and partial algorithms

Paul Feehan, Distinguished Professor of Mathematics, SAS; Ph.D., Columbia
Partial differential equations; mathematical physics and four-manifold topology; mathematical finance

Mark Feighn, Distinguished Professor of Mathematics, FAS-N; Ph.D., Columbia
Topology and geometric group theory; low-dimensional manifolds

Siqi Fu, Professor of Mathematical Sciences, FAS-C; Ph.D., Washington (St. Louis)
Several complex variables

Simon G. Gindikin, Board of Governors Professor Emeritus of Mathematics, SAS; Ph.D., Moscow; D.Sc., Mathematics Institute (St. Petersburg, Russia)
Theory of representations; integral geometry; several complex variables

Gerald A. Goldin, Distinguished Professor of Learning and Teaching, GSE; Ph.D., Princeton
Mathematical physics; infinite-dimensional Lie theory; nonlinear systems; secondary education

Sheldon Goldstein, Distinguished Professor of Mathematics, SAS; Ph.D., Yeshiva
Foundations of quantum mechanics; foundations of statistical mechanics; mathematical physics; probability theory

Zheng-Chao Han, Professor of Mathematics, SAS; Ph.D., Courant
Nonlinear analysis; partial differential equations

Kristen Hendricks, Associate Professor of Mathematics, SAS; Ph.D. Columbia
Low-dimensional and symplectic topology

Xiaojun Huang, Distinguished Professor of Mathematics, SAS; Ph.D., Washington (St. Louis)
Several complex variables

Yi-Zhi Huang, Professor of Mathematics, SAS; Ph.D., Rutgers
Conformal field theory; mathematics underlying string theory

Henryk Iwaniec, State of New Jersey Professor of Mathematics, SAS; Ph.D., Warsaw
Analytic number theory

Howard J. Jacobowitz, Distinguished Professor of Mathematics, FAS-C; Ph.D., New York
Differential geometry

Ian Jauslin, Assistant Professor of Mathematics, SAS; Ph.D., Rome Sapienza
Mathematical Physics, Statistical Mechanics

Jeffry N. Kahn, Distinguished Professor of Mathematics, SAS; Ph.D., Ohio State
Combinatorics and related fields

Daniel Ketover, Associate Professor of Mathematics, SAS; Ph.D., MIT
Geometry and Topology

Michael Kiessling, Professor of Mathematics, SAS; Ph.D., Bochum (Germany)
Mathematical physics: foundations of physics, statistical mechanics; analysis: nonlinear partial differential equations

János Komlós, Distinguished Professor of Mathematics, SAS; Ph.D., Eötvös (Hungary)
Discrete mathematics; combinatorics; probability; theoretical computer science

Alexander Kontorovich, Distinguished Professor of Mathematics, SAS; Ph.D., Columbia
Analytic Number Theory

Dennis Kriventsov, Assistant Professor of Mathematics, SAS: Ph.D., Texas-Austin
Elliptic partial differential equations and free boundary problems

Kasper Larsen, Professor of Mathematics,, SAS; Ph.D., Southern Denmark (2004)
Mathematical Finance

Joel L. Lebowitz, George William Hill Professor of Mathematics and Director of the Center for Mathematical Sciences Research, SAS; Ph.D., Syracuse
Mathematical physics; statistical mechanics

James Lepowsky, Distinguished Professor of Mathematics, SAS; Ph.D., Massachusetts Institute of Technology
Representation theory; vertex operator algebras; mathematics underlying string theory

Chi Li, Associate Professor of Mathematics, SAS; Ph.D., Princeton
Geometry and Topology, Geometric Analysis

Haisheng Li, Professor of Mathematics, FAS-C; Ph.D., Rutgers
Vertex operator algebras; mathematics related to string theory

Yanyan Li, Distinguished Professor of Mathematics, SAS; Ph.D., New York
Nonlinear analysis; partial differential equations

Liping Liu, Professor of Mathematics and Professor of Mechanical and Aerospace Engineering, SAS and SOE; Ph.D., Minnesota (Twin Cities)
Mechanics and Mathematics of Materials

Feng Luo, Professor of Mathematics, SAS; Ph.D., California (San Diego)
Topology and geometry; low-dimensional topology; geometric structures on manifolds

Richard N. Lyons, Distinguished Professor Emeritus of Mathematics, SAS; Ph.D., Chicago
Simple groups

Konstantin Matveev, Assistant Professor of Mathematics, SAS; PhD: Harvard
Symmetric functions, integrable probability, asymptotic representation theory

Facundo Mémoli. Professor of Mathematics, SAS; Ph.D., Minnesota
Applications of geometry and topology to data science.

Mariusz Mirek, Associate Professor, SAS; Ph.D., Wroclaw
Fourier Analysis

Konstantin Mischaikow, Distinguished Professor of Mathematics, SAS; Ph.D., Wisconsin (Madison)
Topological and computational dynamics; mathematical biology; nonlinear data analysis

Gregory Moore, Distinguished Professor of Physics and Astronomy, SAS; Ph.D., Harvard
Theoretical high-energy physics

Lee Mosher, Distinguished Professor of Mathematics and Computer Science, FAS-N; Ph.D., Princeton
Low-dimensional topology and geometry; geometric group theory

Bhargav Narayanan, Associate Professor of Mathematics, SAS; Ph.D., Cambridge
Combinatorics and Discrete Probability

Roger Nussbaum, Distinguished Professor Emeritus of Mathematics, SAS; Ph.D., Chicago
Nonlinear functional analysis; differential-delay equations, nonlinear Perron-Frobenius theory

Daniel L. Ocone, Professor Emeritus of Mathematics, SAS; Ph.D., Massachusetts Institute of Technology
Stochastic processes; stochastic control; filtering

Triet Pham, Associate Teaching Professor of Mathematics & Mathematical Finance, SAS: Ph.D., USC
Math Finance

John D. Randall, Associate Professor of Mathematics and Computer Science, FAS-N; Ph.D., Warwick (UK)
Differential topology; algebraic geometry

Vladimir Retakh, Professor of Mathematics, SAS; Ph.D., Moscow Pedagogical Institute
Noncommutative algebra and combinatorics; special functions and differential equations; mathematics education

Fred S. Roberts, Distinguished Professor of Mathematics, SAS; Ph.D., Stanford
Applications of discrete mathematics; graph theory; decision theory; measurement theory; data science; mathematical modeling

Xiaochun Rong, Distinguished Professor of Mathematics, SAS; Ph.D., SUNY (Stony Brook)
Riemannian geometry

Joseph G. Rosenstein, Distinguished Professor Emeritus of Mathematics, SAS, and Associate Director of Education, DIMACS; Ph.D., Cornell
Mathematics education; logic; linear orderings; recursive model theory

Damiano Rossi, Assistant Professor of Mathematics, SAS; Ph.D., Bergische Universität Wuppertal
Group Theory and Representation Theory

David Ruelle, Distinguished Visiting Professor of Mathematics, SAS; Ph.D., Brussels
Statistical mechanics; dynamical systems

Siddhartha Sahi, Distinguished Professor of Mathematics, SAS; Ph.D., Yale
Representation theory; combinatorics; economics

Michael Saks, Distinguished Professor Emeritus of Mathematics, SAS; Ph.D., Massachusetts Institute of Technology
Theory of computation; discrete mathematics

Natasa Sesum, Distinguished Professor of Mathematics, SAS; Ph.D., Massachusetts Institute of Technology
Ricci flow, Yamabe flow, and other geometric flows; partial differential equations; complex geometry; Kahler-Einstein metrics

Saharon Shelah, Distinguished Visiting Professor of Mathematics, SAS; Ph.D., Hebrew (Israel)
Logic; model theory

Diana F. Shelstad, Distinguished Professor of Mathematics and Computer Science, FAS-N; Ph.D., Yale
Harmonic analysis on algebraic groups related to number theory and geometry

Dima Sinapova, Professor of Mathematics, SAS; Ph.D, California (Los Angeles)

Mathematical Logic and Set theory.

Avraham Soffer, Distinguished Professor of Mathematics, SAS; Ph.D., Tel Aviv
Theory of partial differential evolution equations; Schrödinger operators and scattering theory; general mathematical physics

Jian Song, Distinguished Professor of Mathematics, SAS; Ph.D., Columbia
Geometric analysis

Eduardo D. Sontag, Distinguished Professor Emeritus of Mathematics, SAS; Ph.D., Florida
Control theory and systems biology

Eugene R. Speer, Professor Emeritus of Mathematics, SAS; Ph.D., Princeton
Mathematical physics

Jacob Sturm, Distinguished Professor of Mathematics and Computer Science, FAS-N; Ph.D., Princeton
Number theory; automorphic forms; geometric analysis

Hongbin Sun, Associate Professor of Mathematics, SAS; Ph.D., Princeton
3-manifold topology, hyperbolic geometry

Hector J. Sussmann, Distinguished Professor Emeritus of Mathematics, SAS; Ph.D., New York
System and control theory

Mario Szégédy, Distinguished Professor of Computer Science, SAS; Ph.D., Chicago
Theoretical computer science; programming languages; combinatorics; combinatorial geometry; artificial intelligence

A. Shadi Tahvildar-Zadeh, Professor of Mathematics, SAS; Ph.D., New York,
Nonlinear hyperbolic partial differential equations

Simon Thomas, Distinguished Professor of Mathematics, SAS; Ph.D., London
Set theory; model theory; infinite groups

Pham Tiep, Joshua Barlaz Professor, Distinguished Professor of Mathematics, SAS; Ph.D., D. Sc., Moscow State
Group Theory and Representation Theory

Gabor Toth, Professor of Mathematics, FAS-C; Ph.D., Eötvös (Hungary)
Differential geometry

Maxime Van de Moortel, Assistant Professor of Mathematics, SAS; Ph.D., Cambridge,
Partial differential equations/ General Relativity/ Mathematical Physics

Michael Vogelius, Board of Governors Professor of Mathematics, SAS; Ph.D., Maryland
Numerical analysis; partial differential equations

Charles A. Weibel, Distinguished Professor of Mathematics, SAS; Ph.D., Chicago
Algebraic K-theory; homological algebra; algebraic topology; category theory

Kimberly Weston, Assistant Professor of Mathematics, SAS; Ph.D., Carnegie Mellon
Mathematical finance and economics

Christopher T. Woodward, Distinguished Professor of Mathematics, SAS; Ph.D., Massachusetts Institute of Technology
Symplectic geometry; geometric quantization

Guangbo Xu, Associate Professor of Mathematics, SAS: Ph.D., Princeton
Symplectic Geometry

Matthew Young, Harold H. Martin Professor of Mathematics, SAS; Ph.D., Rutgers
Number Theory

Doron Zeilberger, Board of Governors Professor of Mathematics, SAS; Ph.D., Weizmann (Israel)
Algebraic and enumerative combinatorics; experimental mathematics

Associate Members of the Graduate Faculty

Juan Pablo Mejía-Ramos, Associate Professor of Learning and Teaching, GSE, SAS; Ph.D., Warwick (UK)

Mathematical reasoning; mathematical argumentation and proof; mathematics education

Mathematics 640, 642, 643 (SGS-MATH)

Degree Requirements

Degree Requirements

Core Courses for the Ph.D. Program

The requirements for a Ph.D. in Mathematics include successful completion of an approved program. To be approved, a program should normally include the following requirements:

Students should complete the following **3 core courses during their first semester**:

- 640:501 Theory of Functions of a Real Variable I (Offered every fall) (Outline of topics)
- 640:551 Abstract Algebra I (Offered every fall) (Outline of topics)
- 640:503 Theory of Functions of a Complex Variable I (Offered every fall) (Outline of topics)

Much of the syllabus of the written qualifying exam comes from 640:501,640:503 and 640:551 Besides teaching specific mathematical content, these courses are aimed at giving you considerable experience writing mathematical proofs at a level expected of graduate students. We attempt to give you considerable feedback on your proofs. Students who pass a Written Qualifying Exam in Algebra, Real Analysis, or Complex Analysis with a sufficiently high score may continue to request an exemption from taking the corresponding first semester required course (640:501, 640:503, or 640:551), which must be approved by the Graduate Program Director.

Students should **complete 3 courses from a menu of additional courses within their first two academic years and not all chosen from the same area** (Algebra or Analysis or Applied Mathematics or Geometry & Topology). The current Menu of Additional Courses is

Algebra

- 640:535 – Algebraic Geometry I

- 640:550 – Lie Algebras
- 640:552 – Abstract Algebra II
- 640:561 – Mathematical Logic
- 640:571 – Number Theory I

Analysis

- 640:502 – Theory of Functions of a Real Variable II
- 640:504 – Complex Analysis II
- 640:507 – Functional Analysis I
- 640:515 – Ordinary Differential Equations
- 640:517 – Partial Differential Equations I

Applied Mathematics

- 642:561 – Introduction to Mathematical Physics I
- 642:573 – Numerical Analysis I
- 640:577 – Introduction to Mathematical Probability Theory I
- 642:581 – Graph Theory
- 642:582 – Combinatorics I
- 642:583 – Combinatorics II (does not require 642:582 – Combinatorics I as a prerequisite).

Geometry and Topology

- 640:532 – Introduction to Differential Geometry I
- 640:540 – Introduction to Algebraic Topology I
- 640:548 – Differential Topology
- 640:549 – Lie Groups

Courses in the menu of additional courses have formal requirements that go beyond attendance (such as regularly assigned and graded homework or midterm exam(s) or a final exam or a final paper). Each menu course has explicit prerequisites to ensure that students have the required background for that course, and prerequisites for each course can be found under the Course Descriptions page. Students with appropriate background may request approval from the Graduate Program Director to instead take alternative courses that are not on the menu.

Core Courses for the Traditional Master's Program

- Specifically required are (i) one of the courses 16:640:501 Theory of Functions of a Real Variable I, 16:640:503 Theory of Functions of a Complex Variable I, 16:640:515 Ordinary Differential Equations, and 16:642:516 Applied Partial Differential Equations, (ii) 16:640:551 Abstract Algebra I and (iii) a course in computer science, statistics, or some area of applied mathematics within the department.

Course Descriptions

Course Descriptions

Graduate Courses (640)

16:640:501,502 ***Theory of Functions of a Real Variable I,II (3,3)***
Real number system, measure theory, and Lebesgue integration in Euclidean and abstract spaces, set functions, bounded variation, absolute continuity, and differentiation of the indefinite integral; radon measure, and Lp spaces.
Prerequisite: Advanced calculus.

16:640:503 ***Theory of Functions of a Complex Variable I (3)***
Elementary properties of complex numbers, analytic functions, the exponential function and logarithm, conformal mapping, Cauchy integral formula, maximum modulus principle, Laurent series, classification of isolated singularities, and residue theorem.
Prerequisite: Advanced calculus.

16:640:504 ***Theory of Functions of a Complex Variable II (3)***
Analytic continuation and the monodromy theorem, normal families and Riemann mapping theorem, Picard theorems, and other topics.
Prerequisite: 16:640:503.

16:640:507,508 ***Functional Analysis I,II (3,3)***
First semester: introductory Hilbert space theory, including the Riesz representation theorem and the spectral theory of compact symmetric operators. Fundamental principles of linear analysis: Hahn-Banach, uniform boundedness, and closed-graph theorems. Weak topologies, Riesz theory of compact operators. Second semester: Banach algebra, spectral theory of operators on Hilbert space, and other selected topics and applications.
Prerequisites: 16:640:502, 503.

16:640:509,510,511 ***Selected Topics in Analysis (3,3,3)***
Prerequisites: 16:640:502 and permission of instructor.

16:640:515 ***Ordinary Differential Equations (3)***
Theory of ordinary and functional differential equations: basic existence theorems, linear systems, stability theory, periodic and almost-periodic solutions. Applications to biology, medicine, and physics.
Prerequisites: Linear algebra and advanced calculus

16:640:517,518 ***Partial Differential Equations I,II (3,3)***
Theory of distributions, Fourier transform, fundamental solutions of the heat, wave, and Laplace equations. The Cauchy problem, theorems of Cauchy-Kovalevska and Holmgren, and hyperbolic equations. Elliptic boundary value problems and Sobolev spaces.
Pre- or corequisites: 16:640:502, 503, 507.

16:640:519 ***Selected Topics in Differential Equations (3)***
Topics in ordinary and partial differential equations chosen by the instructor.
Prerequisite: Permission of instructor.

16:640:521 ***Harmonic Analysis on Euclidean Spaces (3)***
Maximal functions, fractional integrals, singular integrals, multipliers, Littlewood-Paley theory, Hp spaces, weighted norm inequalities, Fourier series, and differentiation.
Pre- or corequisite: 16:640:502.

16:640:523,524 ***Functions of Several Complex Variables I,II (3,3)***
Elementary theorems (Hartogs, Osgood), statement of Cousin and Levi problems, complex differential geometry, complex manifolds, and holomorphic convexity.
Pre- or corequisites: 16:640:502, 503, 507.

16:640:529 ***Potential Theory (3)***
Harmonic and superharmonic functions in Rn; polar sets, potentials, capacities, Green's functions, balayage, thin sets, and fine topology. Energy and the Dirichlet integral. The Dirichlet problem in Rn. Lp boundary values and nontangential maximal functions for C1 and Lip1 boundaries. Ideal boundaries.
Prerequisites: 16:640:502, 504.

16:640:532 ***Differential Geometry I (3)***
Differentiable manifolds, Riemannian metrics, Levi-Civita connections, curvature tensors, geodesics, Jacobi fields, comparison theorems in Riemannian geometry.

16:640:533 ***Intro Differential Geometry I (3)***
Theory of connections, characteristic classes, harmonic forms, Hodge decomposition, Yang-Mills theory

16:640:534, 537 ***Selected Topics in Geometry I, II (3, 3)***
Selected topics, including Lie groups, representation theory, homogeneous spaces, and semi-Riemannian manifolds.
Prerequisite: Permission of instructor.

16:640:535,536 ***Algebraic Geometry I,II (3, 3)***
Geometry of projective spaces; cohomology of coherent sheaves and schemes.
Prerequisite: Permission of instructor.

16:640:540,541 ***Introduction to Algebraic Topology I,II (3, 3)***
Fundamental group, homology, and cohomology theory; elements of differentiable manifolds.
Prerequisite: Basic concepts of point set topology.

16:640:544 ***Transformation Groups (3)***
Actions of compact Lie groups on manifolds.
Prerequisite: 16:640:541. Corequisite: 16:640:549.

16:640:546 ***Topics in Algebraic Topology (3)***
K-theory, spectral sequences, cohomology operations, various other topics.

16:640:547 ***Topology of Manifolds (3)***
Selected topics from the theory of topological and combinatorial manifolds.
Prerequisite: 16:640:541.

16:640:548 ***Introduction to Topology and Geometry (3)***
Introduction to the basic concepts and examples in topology and differential geometry, possibly including point set topology, differentiable manifolds, and elementary homotopy theory.
Prerequisite: 16:640:503.

16:640:549 ***Lie Groups (3)***
Lie groups. Lie algebras, elements of representation theory.
Prerequisites: 16:640:532, 541.

16:640:550 ***Lie Algebras (3)***
Introduction to the general structure theory of Lie algebras and to the structure theory of finite-dimensional semisimple Lie algebras over the complex numbers.
Prerequisites: Linear algebra, 16:640:551.

16:640:551,552 ***Abstract Algebra I,II (3,3)***
Introductory topics in groups, rings, modules, linear algebra, fields, Galois theory, and homological algebra.

16:640:553 ***Theory of Groups (3)***
Topics chosen from among group representations and character theory, primitive permutation groups, local groups, theoretic analysis of simple groups, and infinite groups.
Prerequisite: 16:640:551.

16:640:554 ***Topics in Algebra I (3)***
Topics of current interest.
Prerequisite: Permission of instructor.

16:640:555 ***Topics in Algebra II (3)***
Topics of current interest.
Prerequisite: Permission of instructor.

16:640:556 ***Representation Theory (3)***
Irreducible modules, representations of rings, and radicals of rings; Artinian, semisimple, and quotient rings.
Prerequisite: 16:640:552.

16:640:557 ***Topics in Vertex Operator Algebra Theory (3)***
Topics of current interest in the representation theory of vertex operator algebras and applications in mathematics and theoretical physics.
Prerequisite: Permission of instructor.

16:640:558 ***Theory of Algebras (3)***
Topics of current interest in vertex operator algebra theory and related fields of mathematics
Prerequisite: Permission of instructor.

16:640:559 ***Commutative Algebra (3)***
Ideal theory, Noetherian rings, local rings, regular local rings, valuation theory, Gröbner bases, and computations in polynomial rings.
Prerequisite: 16:640:552.

16:640:560 ***Homological Algebra (3)***
Projective and injective modules; the derived functions Ext and Tor; categories and functors; spectral sequences, and derived categories.
Prerequisite: 16:640:552.

16:640:561 ***Mathematical Logic (3)***
Metamathematics and first-order arithmetic and analysis, with emphasis on the questions of consistency and completeness. Introduction to model theory and its application to the study of formal systems.

16:640:566 ***Axiomatic Set Theory (3)***
Axioms of Zermelo-Fraenkel, axioms of infinity consistency and independence of the continuum hypothesis, Dedekind-finite cardinals, and large cardinals.
Prerequisite: 16:640:561.

16:640:567 ***Model Theory (3)***
Types of elements, prime and saturated models, methods of constructing models, the two-cardinal problem, categoricity, and power.
Prerequisite: 16:640:561.

16:640:569 ***Selected Topics in Logic (3)***
Topics of current interest.
Prerequisite: Permission of instructor.

16:640:571,572 ***Number Theory I,II (3,3)***
Integrated, yearlong introduction to ideas in algebraic and analytic number theory.
Prerequisites: 16:640:551,552.

16:640:573 ***Special Topics in Number Theory (3,3)***
Iwaniec.
Prerequisite: Permission of instructor.

16:640:574 ***Topics in Number Theory (3)***
Topics of current interest.
Prerequisite: Permission of instructor.

16:640:577 Intro Math Probability I (3)
Measure-theoretic probability. Formulation of a probability space as measure space, the Borel-Cantelli Lemmas, the laws of large numbers, conditional expectation, martingales, the Central Limit Theorem, and Brownian motion.

16:640:601 ***(S) Mathematics TA Instructional Training (0)***
Issues in teaching college-level mathematics courses; practical teaching sessions videotaped and critiqued by faculty instructors.
Open only to Ph.D. students in mathematics or other graduate students appointed to teaching assistantships in mathematics.

16:640:615 ***Special Studies in Advanced Mathematics (BA)***

16:640:616,617 ***Seminar in Mathematics I,II (1,1)***
Two-semester participation in one of the seminars conducted by the department required of all candidates for the Ph.D.
Prerequisite: Two years of graduate study in mathematics.

16:640:640 ***Experimental Mathematics (3)***
Use of computer algebra systems to design and conduct mathematical experiments leading to rigorous proofs. Emphasis on algorithmic and constructive aspects.
Prerequisite: Permission of instructor.

16:640:651 ***Category Theory (3)***
Basic theory of categories, functors, and natural transformations. Abstract theory interpreted and illustrated through examples.
Prerequisite: Some background in algebra and topology.

16:640:699 ***Nonthesis Study (1)***

16:640:701,702 ***Research in Mathematics (BA,BA)***

Graduate Courses in Applied Mathematics (642)

16:642:516 ***Applied Partial Differential Equations (3)***
Theory and applications of partial differential equations. First-order equations: linear and quasi-linear. Hyperbolic systems: shocks. Classification of second-order linear equations. Hyperbolic: characteristics, wave equation. Elliptic: maximum principles, Laplace's and reduced-wave equations. Parabolic: heat equation. Fourier and Laplace transforms.
Prerequisites: Advanced calculus, differential equations.

16:642:527,528 ***Methods of Applied Mathematics I,II (3,3)***
Appropriate topics from linear algebra, linear operators in Hilbert space, linear integral equations, boundary-value problems, calculus of variations, numerical solution of ordinary and partial differential equations.
Prerequisite: Permission of instructor.

16:642:550 ***Linear Algebra and Applications (3)***
Vector spaces, bases, and dimension. Linear operators, quadratic forms, and their matrix representations. Eigenvalues, eigenvectors, diagonalizability, Jordan, and other canonical forms. Applications to systems of linear differential equations.

16:642:551 ***Applied Algebra (3)***
Basic algebraic structures, including groups and their representations, finite fields, and Boolean algebra. Applications to physics, counting arguments, switching circuits, and coding theory. Automata theory.
Prerequisite: 16:642:550.

16:642:561-562 ***Introduction to Mathematical Physics I,II (3,3)***
Study of models of classical and/or quantum mechanical physical systems, with emphasis on the use of rigorous mathematical techniques.
Prerequisites: Linear algebra, advanced calculus.

16:642:563 ***(F) Rigorous Results in Statistical Mechanics I: Equilibrium (3)***
Treats the subject ab initio. Deals with general questions such as the existence of the thermodynamic limit, convergence of low-density expansions, correlation inequalities, and coexistence of phases.

Prerequisite: Permission of instructor. Students should have either a general mathematical background equivalent to that of a second-year graduate student in mathematics or knowledge of statistical mechanics obtained from physics, chemistry, or engineering courses in the subject.

16:642:564 ***(S) Rigorous Results in Statistical Mechanics II: Nonequilibrium (3)***
Ergodic theory, time evolution of infinite systems, heat flow in random systems, stationary nonequilibrium systems, exactly soluble models systems, and stochastic processes.
Prerequisite: Permission of instructor. Students should have either a general mathematical background equivalent to that of a second-year graduate student in mathematics or knowledge of statistical mechanics obtained from physics, chemistry, or engineering courses in the subject.

16:642:575 ***Numerical Solutions of Partial Differential Equations (3)***
The study of numerical methods (e.g., finite difference, finite element, finite volume methods) for the approximation of elliptic, parabolic, and hyperbolic partial differential equations, concentrating on the key ideas underlying the derivation of numerical schemes, their stability and accuracy, and the fast solution of the discrete equations resulting from application of the approximation schemes.
Prerequisite: Partial differential equations.

16:642:577,578 ***Selected Mathematical Topics in System Theory (3,3)***
Selection of topics from mathematical system theory (e.g., realization, control, stability, optimization, and feedback), with emphasis on qualitative aspects. Algebraic techniques in linear system theory; geometrical and functional analytic techniques in the study of nonlinear control systems.
Prerequisites: Linear algebra, differential equations.

16:642:581 ***(S) Graph Theory (3)***
Advanced introduction to graph theory. Topics include matching theory, connectivity, graph coloring, planarity, extremal graph theory, and the main techniques (elementary, probabilistic, algebraic, and polyhedral) for analyzing the structure and properties of graphs.
Prerequisites: 01:640:350 and 411, or permission of instructor; 01:640:477 is recommended.

16:642:582,583 ***Combinatorics I,II (3,3)***
Advanced introduction to combinatorial theory and applications. Typical topics include hypergraphs, probabilistic methods, algebraic methods, matching theory, packing and covering, Ramsey theory, partially ordered sets and lattices, block designs, error-correcting codes, and matroids. Topics and emphasis vary depending on instructor.
Prerequisites: 01:640:350 and 411, or permission of instructor; 01:640:477 and 16:640:551 are recommended.

16:642:585 ***Mathematical Models of Social and Policy Problems (3)***
Mathematical models of problems in social sciences and the public and private policy areas, emphasizing discrete models. Transportation and communication networks. Energy modeling. Pollution models. Models from economics, psychology, sociology, and political science, dealing with such issues as currency movement, land development, learning, small-group behavior, and power in legislatures. Development of requisite mathematical tools about graphs, signed graphs, Markov chains, and n-person games.
Prerequisites: Linear algebra, elementary probability.

16:642:586 ***(S) Theory of Measurement (3)***
Foundations of measurement from a mathematical point of view. Homomorphisms or relational systems; scale type; uniqueness theory; ordinal, extensive, difference, and conjoint measurements; utility and expected utility; subjective probability; and applications to social and physical sciences.
Prerequisite: Undergraduate modern algebra or permission of instructor.

16:642:587 ***Selected Topics in Discrete Mathematics (3)***
Choice of topics depends on year and instructor.
Prerequisite: Permission of instructor.

16:642:588 ***(S) Arithmetic Combinatorics (3)***
Structure of sum-sets, inverse problems, arithmetic progressions in dense sets, regularity lemmas, pseudorandomness, Fourier analytics techniques, geometry of numbers.
Prerequisite: 16:642:582 or permission of instructor.

16:642:591,592 ***Topics in Probability and Ergodic Theory I,II (3,3)***
Basic probability theory and its applications. Topics include stochastic independence, distributions and densities, Markov processes, stationary processes, the law of large numbers, and the central limit theorem. Also includes a broad range of applications to communications engineering, economics, biology, and physics.
Corequisites: 16:640:501,502.

16:642:593 ***(F) Mathematical Foundations for Industrial and Systems Engineering (3)***
Underlying mathematical principles of system modeling. Foundations of the real number system and calculus of functions of one variable, with emphasis on logical principles and methods of proof.
Prerequisite: Permission of instructor.

16:642:611,612 ***Selected Topics in Applied Mathematics (3,3)***
Topics of current interest.
Prerequisite: Permission of instructor.

16:642:613 ***Mathematical Foundations of Systems Biology (3)***
Basic ODE models including the drug infusion, epidemics, and Hodgin-Huxley models. Signal transduction networks: the mathematics of ultrasensitivity and bistability; monotone systems. Chemotaxis, robustness, and adaptation. Reverse engineering of gene and protein networks. PDE analysis of diffusion and transport. (Topics will vary.)
Prerequisite: Permission of instructor.

16:642:614 ***Selected Topics in Systems Biology (3)***
Selection of mathematical topics (e.g., dynamical systems, control theory, statistical mechanics, combinatorics, numerical methods, probability, and statistics) applied to questions from systems biology (gene regulation/signal transduction networks, population biology and ecology, evolution, neuroscience, physiology, biomechanics).
Prerequisite: Permission of instructor.

16:642:661,662 ***Selected Topics in Mathematical Physics (3,3)***
Topics of current interest in areas such as classical mechanics, statistical mechanics, ergodic theory, nonrelativistic quantum mechanics, and quantum field theory.
Prerequisite: Permission of instructor.

16:643:573,574 *Numerical Analysis I,II (3,3)*
A general survey of basic topics in numerical analysis, typically including the approximation of functions, numerical integration, numerical solution of linear and nonlinear systems of equations, numerical techniques for unconstrained function minimization, approximation of matrix eigenvalues and eigenvectors, the numerical solution of initial and boundary value problems for ordinary differential equations, and the approximation of some simple model problems in partial differential equations.
Prerequisites: Advanced calculus, linear algebra, and differential equations.

16:643:621,622 *Mathematical Finance I,II (3,3)*
Introduction to stochastic processes and stochastic calculus, and their application to continuous-time finance and the mathematical theory of derivative security pricing.
Prerequisites: Probability Theory (Math 01:640:477), Advanced Calculus for Engineering (Math 01:640:421), or Elementary Partial Differential Equations (Math 01:640:423), and Linear Algebra (Math 01:640:250).

16:643:623 *Computational Finance (3)*
Implementation of models for pricing and hedging derivative securities, using C++ programming projects, with emphasis on Monte Carlo simulation, finite difference solution of partial differential equations, binomial and trinomial trees, and the fast Fourier transform (FFT).
Prerequisites: 16:332:503, 16:642:573, 621. Corequisites: 16:642:574 or 575, 622.

16:643:624 *Credit Risk Modeling (3)*
Single-name credit derivatives; structural, reduced form, or intensity models; credit default swaps; multiname credit derivatives; top-down and bottom-up models; collateralized debt obligations; tranche options; risk management.
Prerequisites: 16:642:573, 621. Corequisite: 16:642:622.

16:643:625 *Portfolio Theory and Applications (3)*
Introduction to modern quantitative portfolio management, from theoretical foundations to the advanced applications, emphasizing models and mathematical, numerical, and statistical techniques.
Prerequisites: 16:642:621, 16:220:507. Corequisite: 16:220:508.

16:643:626 *Fixed-Income Securities and Derivative Modeling (3)*
Fixed-income securities products; interest rate and yield curve models; models for fixed-income pricing and risk management; exotic fixed-income derivative modeling; mortgage-backed securities; stochastic volatility models.
Prerequisites: 16:642:573, 621. Corequisite: 16:642:622.

16:643:627 *High-Frequency Finance and Stochastic Control (3)*
An introduction to stochastic control and estimation with emphasis on the Hamilton-Jacobi-Bellman equation, Kalman filtering, and applications to high-frequency finance and trading.
Prerequisites: 16:332:503, 16:642:621, 16:220:507, 16:960:563. Corequisite: 16:220:508.

16:643:628 *Topics in Mathematical Finance (3)*
Topics rotate from semester to semester and year to year. Recent topics have included (a) Energy Risk, Commodities, and Derivative Modeling, (b) Fixed-Income Products and Derivative Modeling, and (c) Quantitative Risk Management.
Prerequisite: Permission of mathematical finance program director.

16:643:629 ***Special Research Projects in Mathematical Finance (1)***
Research project performed in connection with the master's essay for the mathematical finance option of the master of science degree in mathematics, often as part of an industry internship in quantitative finance.
Prerequisite: Permission of mathematical finance program director.

16:643:630 ***Seminar in Mathematical Finance (0.5)***
Seminar in mathematical finance theory, industry practice, and career preparation for students pursuing the mathematical finance option of the master of science degree in mathematics.
Prerequisite: Permission of mathematical finance program director.

Mechanical and Aerospace Engineering 650 (SGS-MAE)

MECHANICAL AND AEROSPACE ENGINEERING 650

Please visit the Mechanical and Aerospace Engineering website.

Degree Programs Offered: M.E., M.S., Ph.D.

Program Description

The Mechanical & Aerospace Engineering graduate program prepares students to apply physics, mathematics, and materials science to solve real-world problems. We offer M.S. and Ph.D. programs for students who wish to pursue research-oriented careers and the MEng program for students who wish to enter the industry as practicing professionals. You will be part of a dynamic community of scholars and researchers, working together on cutting-edge problems in aerospace systems, biomechanics, dynamics & control, energy systems, fluid & thermal science, materials, manufacturing, nanotechnology, and robotics.

Faculty

Haim Baruh, Ph.D., Virginia

Steven Berg, B.S., M.S., Ph.D., Missouri

Laura Burlion, Ph.D., Paris

Gerardo Callegari

Joseph (Yossi) Cohen

Kimberly Cook-Chennault, Ph.D., Michigan

Alberto Cuitino, Ph.D., Brown

German Drazer, Ph.D., Cuyo and Instituto Balseiro

Hae Chang Gea, Ph.D., Michigan

Benjamin Glasser, Ph.D., Princeton

Xi Gu, Ph.D., Michigan

Yuebin Guo, Ph.D., Purdue

Zhixiong Guo, Ph.D. Polytechnic

Richard Hill

Mukund Karwe, Ph.D., Rutgers

Doyle Knight, Ph.D., California Institute of Technology

Noshir Langrana, Ph.D., Cornell

Liping Liu, Ph.D., Minnesota (Twin City)

Jennifer Lynch-Branzoi, Ph.D., Rutgers

Rajiv Malhotra, Ph.D., Northwestern

Adrian Mann, Ph.D. Oxford (UK)

Aaron Mazzeo, Ph.D., Massachusetts Institute of Technology

Simiao Niu

Assimina Pelegri, Ph.D., Georgia Institute of Technology

Lizzette Perez Lespier

Amin Reihani

Todd Rossi, Ph.D., Purdue

Annalisa Scacchioli, Ph.D., L'Aquila (Italy)

David Shreiber, Ph.D., Pennsylvania

Ryan Sills, Ph.D., Stanford

Jonathan Singer, Ph.D., Massachusetts Institute of Technology

Maria Tomassone, Ph.D., Northeastern

Maribel Vazquez, Ph.D., Massachusetts Institute of Technology

Nikolaos Vlassis

Jingang Yi, Ph.D., California (Berkeley)

Qingze Zou, Ph.D., Washington (Seattle)

Degree Requirements

Degree Requirements

For more information, please see the Graduate Programs page on the School of Graduate Studies website.

Mechanical and Aerospace Engineering 650 (SGS-MAE)

Course Descriptions

Course Descriptions

For more information, please see the Graduate Programs page on the School of Graduate Studies website.

Mechanical and Aerospace Engineering 650 (SGS-MAE)

Application Requirements

Application Requirements

- Personal statement
- Official transcripts
- 3 letters of recommendation.
- Ph.D.: The GRE General test is required for Ph.D. applicants. M.S./M.E.: The GRE General test is preferred for M.S. or M.E. applicants.

Mechanical and Aerospace Engineering 650 (SGS-MAE)

Admission Deadlines

Admission Deadlines

Fall

APPLICATION TYPE	US APPLICANTS	NON-US APPLICANTS	MERIT-BASED AID
Ph.D.	January 10	January 10	January 10
M.S.	January 10	January 10	January 10
M.E.	January 10	January 10	January 10

Spring

APPLICATION TYPE	US APPLICANTS	NON-US APPLIANTS	MERIT-BASED AID
Ph.D.	November 1	September 1	September 1
M.S.	November 1	September 1	September 1
M.E.	November 1	September 1	September 1

Mechanical and Aerospace Engineering 650 (SGS-MAE)

List of Core Courses

List of Core Courses

For more up to date course descriptions see their website for any additions.

16:650:500 Experimental Methods

16:650:504 Mathematical Methods in Engineering 16:650:510 Computer Aided Design

16:650:512 Robotics and Mechatronics 16:650:514 Design of Mechanisms 16:650:518 Biomechanical Systems

16:650:520 Tissue Mechanics

16:650:522 Analytic Dynamics

16:650:524 Optimal Design in Mechanical Engineering 16:650:530 Fluid Mechanics 1

16-650:532 Experimental Methods in Fluid Mechanics 16-650:534 Computational Fluid Dynamics

16-650:550 Mechanics of Materials

16-650:554 Mechanics of Continua (Solid Mechanics I) 16-650:556 Theory of Elasticity (Solid Mechanics II)

16-650:570 Conduction Heat Transfer 16-650:574 Thermodynamic Theory 16-650:578 Convection Heat Transfer

16-650:582 Computational Heat Transfer 16-650:601/2 Independent Study

16-650:604 Advanced Engineering Analysis

16-650:606 Advanced Mechanical Engineering Topics 16-650:622 Advanced Optimization

16-650:626 Advanced Design and Fabrication 16-650:630 Fluid Mechanics II

16-650:631 Fluid Mechanics III 16-650:634 Compressible Flows

16-650:636 Turbulence

16-650:638 Hydrodynamic Stability

16-650:640 Acoustics

16-650:642 Suspensions

16-650:651 Mechanics of Inelastic Behavior (Solid Mechanics III)

16-650:652 Composite Materials, Fracture Mechanics, and Thermoelasticity (SolidMechanics IV)

16-650:653 Structural Mechanics (Solid Mechanics V) 16-650:660 Finite Element Methods in Solid Mechanics

16-650:661 Advanced Mechanical and Random Vibration 16-650:662 Advanced Stress Waves in Solids

16-650:663 Advanced Plasticity

16-650:664 Advanced Fracture Mechanics 16-650:665 Advanced Composite Materials 16-650:666 Advanced Micromechanics

16-650:667 Advanced Stability of Elastic Systems 16-650:668 Advanced Viscoelasticity

16-650:669 Advanced Thermoelasticity

16-650:670 Combustion

16-650:674 Radiation Heat Transfer

16-650:682 Thermal Transport in Materials Processing 16-650:699 Nonthesis Study

16-650:701/2 Research in Mechanical and Aerospace Engineering

Medicinal Chemistry 663 (SGS-MEDCHEM)

MEDICINAL CHEMISTRY

Please visit the Medicinal Chemistry website.

Degree Programs Offered : M.S., Ph.D.

Program Description

Medicinal Chemistry is a multi-disciplinary field of study that utilizes synthetic organic chemistry in conjunction with developments in biochemistry, computational chemistry, molecular biology, and pharmacology to advance drug discovery. Faculty members within the Graduate Program in Medicinal Chemistry are actively engaged in research projects that include the discovery of new drug entities, the enhancement of drug efficacy by developing mechanism-based prodrugs, and the identification of biologically active metabolites or natural products. The program is designed to provide you with a robust foundation in drug design and drug discovery for a successful career in industry or academia.

Faculty

Edward Arnold, Ph.D., Cornell

Joel Freundlich, Ph.D., Massachusetts Institute of Technology

Chi-Tang Ho, Ph.D., Washington

Longqin Hu, Ph.D., Kansas

Leslie Jimenez, Ph.D., California (Los Angeles)

Vladyslav Kholodovych, Ph.D., Institute of Bioorganic & Petroche

Edmond LaVoie, Ph.D., SUNY (Buffalo)

Matthew Moschitto, Ph.D., Cornell

James Simon, Ph.D., Massachusetts (Amherst)

Jun Wang, Ph.D., Pennsylvania

William Welsh, Ph.D., Pennsylvania

Lawrence Williams, Ph.D., Arizona

Qing-Li Wu, Ph.D., Peking Union

Zongtao (Tom) Lin, Ph.D., University of Tennessee Health Science Center

Medicinal Chemistry 663 (SGS-MEDCHEM)

Degree Requirements

Degree Requirements

Ph.D. in Medicinal Chemistry: The Ernest Mario School of Pharmacy has established a joint Pharm.D./Ph.D. program to meet the needs of interests of highly motivated Pharm.D. students. The program enables students to complete both degrees in approximately nine years by beginning their Ph.D. coursework and research while still enrolled in the Pharm.D. program.

- **Required Core Courses for Ph.D. (17 credits)**
  Foundations in Drug Discovery (16:663:501) (3 credits, offered once every two years) – Fall
  Principles of Drug Design (16:663:502) (3 credits, offered once every two years) – Spring
  Interpretation of Organic Spectra (3 credits) (16:160:515) – Spring
  Modern Synthetic Organic Chemistry (3 credits) (16:160:503) – Spring
  Independent Research Proposal (3 credits) (16:663:540)
  Seminar in Medicinal Chemistry, two (2 credits) (16:663:601 or 602)
- **Electives:** 6 Credits from the approved list or courses approved by the advisor.
- **Lab Rotation** (3 credits) (16.663.508)
- **Research in Medicinal Chemistry (16:663:701,702)** (46 research credits).
- **Qualifying Exam:** A qualifying exam is required for Ph.D. candidacy. In the fall semester of the first year, students must decide on the members on their thesis committee and coordinate with medicinal chemistry program members to arrange for the qualifying exam. The deadline for the qualifying exam is August of the second year. For a qualifying exam, students will give a presentation on their thesis project, which should include background, goals, and any preliminary results if available.
- **Timeline of Ph.D. Courses**
- **Qualifying Examination**
- **Independent Research Proposal**

Pharm.D.-Ph.D. in Medicinal Chemistry: The Ernest Mario School of Pharmacy has established a joint Pharm.D./Ph.D. program to meet the needs of interests of highly motivated Pharm.D. students. The program enables students to complete both degrees in approximately nine years by beginning their Ph.D. coursework and research while still enrolled in the Pharm.D. program.

- **Required Core Courses for Ph.D. (17 credits)**
  Foundations in Drug Discovery (16:663:501) (3 credits, offered once every two years) – Fall
  Principles of Drug Design (16:663:502) (3 credits, offered once every two years) – Spring
  Interpretation of Organic Spectra (3 credits) (16:160:515) – Spring
  Modern Synthetic Organic Chemistry (3 credits) (16:160:503) – Spring
  Independent Research Proposal (3 credits) (16:663:540)
  Seminar in Medicinal Chemistry, two (2 credits) (16:663:601 or 602
- **Electives:** 6 Credits from the approved list or courses approved by the advisor.
- **Lab Rotation** (3 credits) (16.663.508)
- **Research in Medicinal Chemistry** (16:663:701,702) (46 research credits).
- **Qualifying Exam**: A qualifying exam is required for Ph.D. candidacy. In the fall semester of the first year, students must decide on the members on their thesis committee and coordinate with medicinal chemistry program members to arrange for the qualifying exam. The deadline for the qualifying exam is August of the second year. For a qualifying exam, students will give a presentation on their thesis project, which should include background, goals, and any preliminary results if available.
- **Timeline of Pharm.D./Ph.D.**
- **Qualification Examination**
- **Independent Research Proposal**

M.S. in Medicinal Chemistry

- **Required Core Courses (16 credits):**
  Medicinal Chemistry: Research Techniques and Principles (16:663:501) – Fall
  Principles of Drug Design (16:663:502) – Spring
  Molecular Biology and Biochemistry (3 credits) (16:115:511) – Fall
  Interpretation of Organic Spectra (16:160:515) – Spring
  Modern Synthetic Organic Chemistry (16:160:503) – Spring (as of 2024-25)
  Seminar in Medicinal Chemistry (16:663:601 or 602)
- **Thesis option:**
  Electives (3 credits)
  Lab Rotation (3 credits) (16.663.508)
  Research in Medicinal Chemistry (16:663:701,702) (9 research credits)
- **Non-Thesis option:**
  Electives (12 credits)
  Non-Thesis Masters Programmatic Study in Medicinal Chemistry (16:663:620) (3 credits)
  Timeline for M.S. (thesis option)
  Timeline for M.S. (nonthesis option)
  Programmatic Study in Medicinal Chemistry

Course Descriptions

Course Descriptions

16:663:501 ***Foundations of Drug Discovery (3)***
Foundations in Drug Discovery covers the important biochemical processes involved in the development of pharmaceuticals. This course provides an overview of the drug discovery process and provides a foundation for students interested in a career in drug discovery by applying both organic and biochemical principles. There are three parts to this course: (i) Understanding the drug discovery process (2) Common targets in drug discovery including receptors, kinases, GPCRs, ion channels, metabolic enzymes, and DNA; and (3) inhibitor design and evaluation including assay development, enzymology, PK/PD studies, and metabolism. This course is designed as an introductory graduate course or an advanced undergraduate course for students who have taken two semesters of organic chemistry.

16:663:502 ***Principles of Drug Design (3)***
The Principles of Drug Design course aims to provide students with an understanding of the process of drug discovery and development from the identification of novel drug targets to the introduction of new drugs into clinical practice. It covers the basic principles of how new drugs are discovered with emphasis on lead identification, lead optimization, classification and kinetics of molecules targeting enzymes and receptors, prodrug design and applications, as well as structure-based drug design methods. Recent advances in the use of computational and combinatorial chemistry in drug design will also be presented. The course is further enhanced with invited lectures on recent developments and applications of drug design principles in the pharmaceutical industry.

16:663:506 ***Heterocycles Synthesis and Applications (3)***
Properties, reactions, and synthesis of the major classes of heterocyclic compounds, including sugars, which comprise the majority of drugs in clinical use.

16:663:508 ***Laboratory Rotation in Medicinal Chemistry (3)***
Students gain familiarity with the instrumentation and research facilities of the department by participating in research projects in the laboratories of two or three faculty members. Restricted to first-year graduate students.

16:663:511 ***Analytical Medicinal Chemistry (3)***
Fundamental concepts of analytical chemistry applied to drug discovery and development. Analysis of small and large molecules in the pharmaceutical industry.

16:663:540 ***Independent Research Proposal (3)***
The student must prepare a research proposal (NIH format) on a topic not directly related to his or her research project. Following completion of the written proposal, the student is required to defend the proposal to his or her dissertation committee.

16:663:601,602 ***Seminar in Medicinal Chemistry (1,1)***
Students prepare and present a discussion of a recent topic in medicinal chemistry.

16:663:607,608 ***Special Topics in Medicinal Chemistry (3,3)***
Selected topics in medicinal chemistry.

16:663:610,611 ***Independent Study in Medicinal Chemistry (3)***
No more than 3 credits may be taken as part of a student's program. Independent library research into special topics in medicinal chemistry arranged under the supervision of a faculty member.

16:663:612,613 ***Current Topics in Medicinal Chemistry (3,3)***
Selected current topics in medicinal chemistry presented in seminar format.

16:663:620 ***Nonthesis Master's Programmatic Study in Medicinal Chemistry (3)***
Literature review of small research project; final critical essay to be presented to a faculty committee of three members.

16:663:701,702 ***Research in Medicinal Chemistry (3,3)***
Thesis or dissertation in medicinal chemistry under the supervision of a faculty member.

Medicinal Chemistry 663 (SGS-MEDCHEM)

Application Requirements

Application Requirements

Applying to the Ph.D. Program

Most students in the Medicinal Chemistry program (program code 16:663) have undergraduate degrees in chemistry, pharmacy, or biochemistry. Students should have completed two semesters of organic chemistry, with laboratory, and two semesters of physical chemistry at their undergraduate institution. Applicants are strongly recommended to submit their scores from the Graduate Record Examination (GRE) general test (subject tests are not required). Applicants from foreign countries are required to submit their scores associated with the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS). When submitting GRE and TOEFL / IELTS scores, please note that the Institution Code for Rutgers, School of Graduate Studies New Brunswick is 2790 and the Department Code for Medicinal Chemistry is 0621. For further information about GRE and TOEFL / IELTS test scores, please see the School of Graduate Studies website . International applicants are also required to submit financial documentation. Completed applications should be submitted online by:

February 1- for Full Consideration of Financial Support (university fellowship, teaching assistantship, or research assistantship)

May 1 – for International students and June 1- for Domestic students for Fall Admission (no financial support from Rutgers and the applicants are expected to secure their own funding)

December 1 – for Spring Admission (admission considered for special cases only – Students strongly encouraged to apply for Fall admission)

Review for Fall admission will start on January 1st and continue until the positions have been filled. The application must be completed online through the graduate admissions website and consists of the completed application, the $70 application fee, three letters of recommendation, an official transcript, personal statement, curriculum vitae (CV), GRE test scores (general exam, if applicable), and the TOEFL / IELTS Examination Score (when applicable). All documents should be uploaded to your application. All applicant materials must be uploaded through the Graduate and Professional Admissions application portal.

*Please note that application fees cannot be waived by the department

Inquiries about the status of your application (please do not inquire about your application status until after February 15 for Fall admissions) or general questions about the Medicinal

Chemistry Program should be directed to the Medicinal Chemistry Admissions Coordinator.

Applying to the M.S. Program

Deadlines for the application to the M.S. program (with thesis or non-thesis) are the same as stated above for the Ph.D. program application.

*Please note that no financial support will be provided to M.S. students and the students are expected to cover their tuition and living costs.

All applicant materials must be uploaded through the Graduate and Professional Admissions application portal.

*Please note that application fees cannot be waived by the department.

Medicinal Chemistry 663 (SGS-MEDCHEM)

Admission Deadlines

Admission Deadlines

For best consideration apply by these dates For both Ph.D., and M.S.:

- Feb 1 for Full Consideration of Financial Support (university fellowship, teaching assistant ship, or research assistant ship)
- May 1 – for International students and June 1- for Domestic students for Fall Admission (no financial support from Rutgers and the applicants are expected to secure their own funding)
- December 1 – for Spring Admission (admission considered for special cases only – Students strongly encouraged to apply for Fall admission)

Medicinal Chemistry 663 (SGS-MEDCHEM)

List of Core Courses

List of Core Courses

The following courses are offered by the faculty of the Medicinal Chemistry Program: Research Techniques in Medicinal Chemistry (16:663:501)

Principles of Drug Design (16:663:502) Heterocycles in Medicinal Chemistry (16:663:506)

Laboratory Rotation in Medicinal Chemistry (16:663:508)

Independent Study in Medicinal Chemistry (16:663:610,611) [Requires approval of the Graduate Director PRIOR to registration]

Independent Research Proposal (16:663:540) Seminar in Medicinal Chemistry (16:663:601,602)

Non-Thesis Masters Programmatic Study in Medicinal Chemistry (16:663:620) Research in Medicinal Chemistry (16:663:701,702)

Matriculation Continued (16:663:800)

Graduate Fellowship (16:663:811)

Graduate Assistantship (16:663:866)

Teaching Assistantship (16:663:877)

Microbial Biology 682 (SGS-MICROBIALBIO)

MICROBIAL BIOLOGY 682

Please visit the Microbial Biology website.

Degree Programs Offered: M.S., Ph.D.

Program Description

The Microbial Biology program is for students interested in understanding and exploiting microbes and their activities. Students receive an excellent education on the genetic, metabolic, physiologic, and evolutionary diversity of microorganisms and their role in sustaining our biosphere and influencing our health and well-being. Our program prepares students for research, education, and policy positions in academia, industry, and government.

Campus Locations

Busch Campus - New Brunswick Cook/Douglass Campus-New Brunswick

Faculty

Debashish Bhattacharya, Ph.D., Simon Fraser

Kay Bidle, Ph.D., California (San Diego)

Martin Blaser, M.D., New York University

Juan Bonachela, Ph.D., Granada

Benedict Borer Ph.D., ETHZ, Switzerland

Jeffrey Boyd, Ph.D., Utah

Sara Campbell, Ph.D., Florida

George Carman, Ph.D., Massachusetts

Mikhail Chikindas, Ph.D., VNIIgenetika, (Moscow)

Bruce Clarke, Ph.D., Rutgers

Lori Covey, Ph.D., Columbia

John Dighton, Ph.D., London

G. Charles Dismukes, Ph.D., Wisconsin

Maria Dominguez-Bello, Ph.D., Aberdeen

Siobain Duffy, Ph.D., Yale

Richard Ebright, Ph.D., Harvard

Nicole Fahrenfeld, Ph.D., Virginia

Huizhou Fan, Ph.D., Manitoba

Donna Fennell, Ph.D., Cornell

Dina Fonseca, Ph.D., Pennsylvania

Robert Goodman, Ph.D., Cornell

Max Haggblom, Ph.D., Helsinki

Bradley Hillman, Ph.D., California (Berkeley)

Lee Kerkhof, Ph.D., California (San Diego)

Lily Khadempour, Ph.D., Wisconsin

Eric Klein, Ph.D., Pennsylvania

Donald Kobayashi, Ph.D., California (Riverside)

Arkadiusz (Arek) Kulczyk, Ph.D., Cambridge

Adam Kustka, Ph.D., SUNY (Stony Brook)

Eric Lam, Ph.D., California (Berkeley)

Kwangwon Lee, Ph.D., Texas A&M

Thomas Leustek, Ph.D., Rutgers

Tina Liu, Ph.D., Harvard

Desmond Lun, Ph.D. Massachusetts Institute of Techology

Rohan Maddamsetti, Ph.D. Michigan State

Gediminas Mainelis, Ph.D., Cincinnati

Michael Manhart, Ph.D., Rutgers

Karl Matthews, Ph.D, Kentucky

Kenneth McKeever, Ph.D., Arizona

Peter Morin, Ph.D., Duke

Bryce Nickels, Ph.D., Harvard

Donald Nyangahu, B.Sc., M.Sc., Kenyatta; Ph.D., Cape Town

Peter Oudemans, Ph.D., California (Riverside)

Ines Rauschenbach, Ph.D., Rutgers

John Reinfelder, Ph.D., SUNY (Stony Brook)

Diana Roopchand, Ph.D., McGill

Jeffra Schaefer, Ph.D., Rutgers

Donald Schaffner, Ph.D., Georgia

Ann Stock, Ph.D., California (Berkeley)

Judith Storch, Ph.D., Columbia

Xiaoyang Su, Ph.D., Cornell

Jennifer Sun, Ph.D., Yale

Paul Takhistov, Ph.D., USSR Academy of Science

Kimberlee Thamatrakoln, Ph.D., California (San Diego)

Alvaro Toledo, Ph.D., Complutense de Madrid

Nilgun Tumer, Ph.D., Purdue

Andrew Vershon, Ph.D., Massachusetts Institute of Technology

Costantino Vetriani, Ph.D., Rome (Tor Vergata)

James White, Ph.D., Texas

Lori White, Ph.D., Dartmouth

Nancy Woychik, Ph.D., Wisconsin (Madison)

Srujana Yadavalli, Ph.D., Ohio

Nathan Yee, Ph.D., Notre Dame

Lily Young, Ph.D., Harvard

Ning Zhang, Ph.D., Louisiana

Liping Zhao, Ph.D., Nanjing

Gerben Zylstra, Ph.D., Michigan

Microbial Biology 682 (SGS-MICROBIALBIO)

Degree Requirements

Degree Requirements

For more information, please see the Graduate Programs page on the School of Graduate Studies website.

Microbial Biology 682 (SGS-MICROBIALBIO)

Course Descriptions

Course Descriptions

16:682:501 (F) ***Microbial Life (3)***
Molecular aspects of the origin of life, microbial evolution, properties and synthesis of the major biological polymers, transport phenomena, metabolic pathways and regulation, cellular control mechanisms, virology, pathogenic microbiology, and food and industrial microbiology. Haggblom, Kerkhof

16:682:502 (F) ***Microbial Biochemistry (3)***
Biochemical activities of microorganisms, emphasizing the similarities and differences between bacteria, archaea and eukaryotes; consideration of the genetic regulation and practical importance of these biochemical capabilities. Topics include methanogenesis, toxins, biodegradation, microbial transformations, and secondary metabolites. Sun, Dismukes

16:682:503 (S) ***Microbial Physiology (3)***
Metabolic diversity and regulation in bacteria, archaea and eukarya. Microbial responses to environment with particular emphasis on nutrition and biochemistry. Enzymology and metabolic pathways of microorganisms. Boyd
Prerequisites: 16:682:502 or equivalent.

16:682:504 (S) ***Microbial Genetics and Molecular Biology (3)***
Genetics of bacteria and phage, focusing on replication, repair, transcription, translation, gene regulation, genetic networks, microbial and phage interactions, and different types of phage and their lifestyles. Zylstra.
Prerequisite: 16:682:501 or permission of instructor.

16:682:521 (F) ***Seminar in Microbial Biology (1)***
Introduction to the breadth of microbiology research at Rutgers. Note: This course should be taken once only. Only one credit of this course will count toward the M.S. or Ph.D. degree in Microbial Biology. Boyd and others.

16:682:522 (S) ***Seminar in Microbial Biology (1)***
Informal discussion of student research projects and of current microbiology literature. Note: This course should be taken the first year by M.S. students and every year for the first four years by Ph.D. students. The course can be taken by students outside the program with permission of the instructor. Boyd.

16:682:523 (F,S) ***Microbial Biology Seminars (1)***
Exposure to current microbial biology research performed by investigators outside of Rutgers by attending microbiology seminars offered by different departments. Note: This course should be taken three times by Ph.D. students in their second, third, or fourth years.
M.S. students may take this course as an elective but only one credit will count toward the M.S. degree. The course can be taken by students outside the program with permission of the instructor. Haggblom.

16:682:530 (F) ***Scientific Conduct and Ethics (1)***
Current issues in microbiology from the perspective of scientific and ethical conduct and integrity. Open to students in the program or by permission of the instructor. Keddis.

Lab Rotation Courses (Ph.D. Students Only)

16:682:611, 612, 613, 614 (F/S) ***Laboratory Rotation in Microbial Biology (1 each)***
Eight week research projects of interest to the student in faculty laboratories. Open only to Ph.D. students in the Microbial Biology Graduate Program. 16:682:611 (F), 612 (F/S), and 613 (S) are required of all first year Ph.D. students. 16:682:614 (S) is optional.

Research Courses (M.S. Students Only)

16:682:641, 642 (F/S) ***Advanced Special Problems in Microbial Biology (1-3)***
Library research for nonthesis M.S. students. Only 3 credits will be counted toward the M.S. degree. Boyd

16:682:691, 692 (F/S) ***Nonthesis Study Microbial Biology (1-3)***
Laboratory research for nonthesis M.S. students. Up to 6 credits will be counted toward the M.S. degree. Boyd

Research Courses (M.S. and Ph.D. Students)

16:682:701, 702 (F/S/Su) ***Research in Microbial Biology (1-9)***
M.S. or Ph.D. thesis laboratory research.

Elective Courses

16:682:524 (F) ***Applied and Industrial Microbiology (3)***
Principles of applied and industrial microbiology. The course provides a detailed overview on the utilization and application of microbes in different products and industrial processes. Haggblom.
Prerequisite: 16:682:501 or permission of the instructor.

16:682:531 (F,S,Su) ***Basic Biochemistry (3)***
This course is a one semester survey of biochemistry, including (1) enzyme structure, function, and kinetics, (2) carbohydrate, lipid, amino acid, and nucleotide metabolic pathways, and (3) replication, transcription, translation, and gene regulation. Murphy
Prerequisite: email Dr. Boyd for a special permission number.

16:682:532 (S) ***Structural Biophysics: Advanced Methods for 3-D Structure Determination of Biomolecules (3)***
Survey of advanced techniques for biomolecule structure determination including cryo- EM, NMR, and X-ray crystallography. In addition to lectures and assignments students will have the opportunity to visit the state-of the-art cryo-EM and NMR facilities and determine a high-resolution cryo-EM structure using a high-performance computing Linux cluster. Kulczyk.

16:682:534 (S) ***Fundamentals of Microbial Genomics (3)***
Overview of genomic technology with real-life examples in the life sciences with a particular focus on microbial biology and evolution. Bhattacharya

16:682:572 (F) ***Microbial Ecology and Diversity (3)***
Qualitative and quantitative methods for the study of microbial communities. Ecological determinants. Characteristics of aquatic and terrestrial ecosystems. Biogeochemical cycles and energy flow. Microbial interactions and community structure. Vetriani.

16:682:576 (S) ***Microbiome and Health (3)***
Overview of the role of microbiome in human health and disease, focusing on conceptual framework and technologies for understanding how microbiome, particularly gut microbiome, impact human physiology. Topics covered include the concept of human superorganism; microbiome evolution and ecology; microbiome and food, nutrition, pharmacology, and human society; experimental design; and general bioinformatic and statistical tools. Zhao, Bello.

16:682:578 (S) ***Molecular Mechanisms of Virulence (3)***
Molecular Mechanisms of Virulence is a course focused on enhancing understanding of how microbes use molecular machines to promote their survival in the hostile host environment, usually during infections. This course is designed for individuals interested in the application of molecular and biochemical methods to understand microbial infections and will prepare students for a variety of science-intensive careers, including in healthcare and industry. Each week, this course focuses on different molecular and biochemical mechanisms microbes use to promote their own survival and includes specific examples from primary literature on our current knowledge for how these systems function. After completing this course, students will have conceptual and technical understanding of the diverse ways bacteria cause infections at a molecular level. Lonergan

16:682:550, 551, 552, 553 (F/S) ***Special Topics in Microbiology (1-3)***
Journal club-styled courses covering current and special topics in the field of microbiology offered by faculty members of the program. Offered on an occasional basis.

16:682:651, 652 (F/S/Su) ***Practical Training in Microbial Biology (1-9)***
Practical training in microbial biology through off campus internships or employment in a microbiology related position.

Microbial Biology 682 (SGS-MICROBIALBIO)

Application Requirements

Application Requirements

- Personal statement
- Official transcripts

- 3 letters of recommendation.
- Ph.D.: The GRE General test is required for Ph.D. applicants. M.S./M.E.: The GRE General test is preferred for M.S. or M.E. applicants.

Microbial Biology 682 (SGS-MICROBIALBIO)

Admission Deadlines

Admission Deadlines

APPLICATION TYPE	US APPLICANTS	NON-US APPLICANTS	MERIT-BASED AID
Ph.D.	December 15	December 15	December 15
M.S.	April 1	April 1	

Molecular Biosciences 695 (SGS-MBIOS)

MOLECULAR BIOSCIENCES 695

Please visit the Molecular Biosciences website.

The explosion of information and ever-increasing understanding of biological systems at a molecular level make this an extraordinarily exciting time to embark on graduate studies in the biomedical and life sciences.

We offer our students an innovative and integrated curriculum with training in fields such as Biochemistry, Genetics, Cell and Developmental Biology, Pharmacology, Physiology, Structural, and Computational Biology.

We feature a creative faculty committed to mentoring and a personalized curriculum that offers exposure to an array of experimental approaches in an interdisciplinary manner.

A lively learning community of students makes Rutgers a leading research University and a great choice for pursuing graduate work at the forefront of the molecular biosciences.

Piscataway/New Brunswick is in Central New Jersey with easy access to New York, Philadelphia, and Washington, DC.

Our graduates obtain positions of leadership in education, research, and industry.

Apply now - A GRE score is not required. Completed applications are due by December 1.

Ph.D. Programs

Molecular Biosciences is an umbrella of five graduate programs in the biomedical and life sciences at Rutgers University. Molecular Biosciences serves as an entry portal to review applications for admission, coordinate the first-year curriculum, and assist students in identifying a laboratory for their thesis research. Students are free to carry out their Ph.D. research with any faculty member affiliated with one of the five Molecular Biosciences graduate programs.

Molecular Biosciences offers research opportunities in more than 200 laboratories across campus. A stipend, tuition remission, and health benefits are guaranteed for all students in good standing with the program. While students initially apply to one of five programs for admission, they may select any lab and program at the end of their first year.

Following the first year, students in Molecular Biosciences have the flexibility to create an individualized curriculum tailored to match their research training needs. With input from their academic and thesis advisors, students select from a variety of one, two and three-credit courses to deepen the knowledge needed to pursue their own thesis project. As one of their course requirements, and in alignment with NIH training goals, all students must take a course in biostatistics, which is usually done during the second year.

Toward the end of the second year, students write, present, and defend a thesis proposal before their thesis advisory committee. To facilitate progress towards graduation, each student meets at least annually with their thesis advisory committee, consisting of at least three program faculty members, who help the advisor in guiding the student's research project. We also make use of Individual Development Plans (IDPs) to systematically identify training needs and competencies, establish goals, and monitor progress. Most students complete and defend their thesis within 5 to 6 years.

Three of the programs also offer a Master's degree to which students may apply directly.

Biochemistry 115

Cell and Developmental Biology 148

Microbiology and Molecular Genetics 681

Pharmacology, Cellular and Molecular 718

Physiology and Integrative Biology 761

Molecular Biosciences 695 (SGS-MBIOS)

Degree Requirements

Degree Requirements

For more information, please see the Graduate Programs page on the School of Graduate Studies website.

Molecular Biosciences 695 (SGS-MBIOS)

Course Descriptions

Course Descriptions

16:695:538 ***Fundamentals of Molecular Biosciences (6)***
Foundational material necessary for graduate students to become fluent in the language of modern molecular and cellular biology, genetics, and biochemistry in order to engage in experimentally based discovery. Through textbook and supplemental readings, instructor-led lecture and discussion, students will establish the foundational knowledge base on which to build critical reasoning skills and identify open questions in molecular biosciences.

16:695:539 ***Experimental Methods in Molecular Biosciences (2)***
Emphasizes experimental methodologies underlying foundational concepts in molecular biosciences. Through reading and discussion of a range of primary papers, students will become familiar with essential experimental approaches, as well as the importance of proper controls, data interpretation and quantitative methods to address problems in molecular biosciences.

16:695:551 ***Essential Skills I (1)***
Presents students with basic skills needed in a biological research setting. Topics range from expectations for graduate school and managing student-advisor relationships to basic laboratory calculations, hands-on use of tools for communicating science, and applications of basic statistics.

Students are introduced to tools for management of the scientific literature, including database searching for relevant papers, and how to cite references properly. Students engage in hands on use of presentation software and bioinformatics tools, exposure to resources to aid in preparation of fellowship and grant applications, and creation of an Individual Development Plan to facilitate success in graduate school and beyond.

16:695:552 ***Essential Skills II***
Presents students with basic skills needed in a biological research setting. Topics range from expectations for graduate school and managing student-advisor relationships, to basic laboratory calculations, hands-on use of tools for communicating science and applications of basic statistics.

Students are introduced to tools for management of the scientific literature, including database searching for relevant papers, and how to cite references properly. Students engage in hands on use of presentation software and bioinformatics tools, exposure to resources to aid in preparation of fellowship and grant applications, and creation of an Individual Development Plan to facilitate success in graduate school and beyond.

16:695:615 ***Laboratory Rotations I (3)***
Students spend 8 to 10 weeks in each of three laboratories of their choosing. Faculty interested in taking rotation students are asked to provide assurance that they have the financial resources to support a student following completion of the first year.

Students are assigned projects that allow them to appreciate the nature of and approach to science, as well as the atmosphere and work ethic of the laboratory, while gaining experience with relevant experimental tools. The PI of the laboratory has the opportunity to assess the compatibility of the student for the research group.

16:695:616 ***Laboratory Rotations II (3)***
Students spend 8 to 10 weeks in each of three laboratories of their choosing. Faculty interested in taking rotation students are asked to provide assurance that they have the financial resources to support a student following completion of the first year.

Students are assigned projects that allow them to appreciate the nature of and approach to science, as well as the atmosphere and work ethic of the laboratory, while gaining experience with relevant experimental tools. The PI of the laboratory has the opportunity to assess the compatibility of the student for the research group.

16:115:556 ***Ethical Scientific Conduct (1)***
Discusses the definitions of and ethical problems caused by the fabrication of data, falsification of results, plagiarism, and other behaviors inconsistent with ethical scientific conduct. Case-based discussions facilitated by faculty members expose students to the need for meticulous record keeping and the responsibilities they have as scientific researchers.

16:695:600 ***Progress Reports of Graduate Students in Molecular Biosciences (0)***
Students reflect on and synthesize their research progress over the previous year and practice public speaking to a broad scientific audience. Students in the audience are exposed to the array of techniques and approaches used by their colleagues, and have the opportunity to ask questions in a comfortable environment. Research presentations delivered by students in year 2 and beyond. Each week, two students give 25-minute oral presentations with slides. Students are asked to provide context for their research project, describe their progress and future goals, and field questions from the audience.

MBS Mini Courses (695)

First-year MBS Ph.D. students select a total of 6 courses mini courses for the Spring semester (2 courses per block). Block 1 course codes are 621-625; Block 2 course codes are 626-630; Block 3 course codes are 631-636. MBS Ph.D. students in their second year and beyond, or CDB or MMG Master's students, register for the number of courses as needed.

16:695:621 ***Mini-Course 1 in Molecular Biosciences (1)***
Topics vary.
Prerequisites: 16:695:538.

16:695:622 ***Mini-Course 2 in Molecular Biosciences (1)***
Topics vary.
Prerequisites: 16:695:538.

16:695:623 ***Mini-Course 3 in Molecular Biosciences (1)***
Topics vary.
Prerequisites: 16:695:538.

16:695:624 ***Mini-Course 4 in Molecular Biosciences (1)***
Topics vary.
Prerequisites: 16:695:538.

16:695:625 ***Mini-Course 5 in Molecular Biosciences (1)***
Topics vary.
Prerequisites: 16:695:538.

16:695:626 ***Mini-Course 6 in Molecular Biosciences (1)***
Topics vary.
Prerequisites: 16:695:538.

16:695:627 ***Mini-Course 7 in Molecular Biosciences (1)***
Topics vary.
Prerequisites: 16:695:538.

16:695:628 *Mini-Course 8 in Molecular Biosciences (1)*
Topics vary.
Prerequisites: 16:695:538.

16:695:629 *Mini-Course 9 in Molecular Biosciences (1)*
Topics vary.
Prerequisites: 16:695:538.

16:695:630 *Mini-Course 10 in Molecular Biosciences (1)*
Topics vary.
Prerequisites: 16:695:538.

16:695:631 *Mini-Course 11 in Molecular Biosciences (1)*
Topics vary.
Prerequisites: 16:695:538.

16:695:632 *Mini-Course 12 in Molecular Biosciences (1)*
Topics vary.
Prerequisites: 16:695:538.

16:695:633 *Mini-Course 13 in Molecular Biosciences (1)*
Topics vary.
Prerequisites: 16:695:538.

16:695:634 *Mini-Course 14 in Molecular Biosciences (1)*
Topics vary.
Prerequisites: 16:695:538.

16:695:635 *Mini-Course 15 in Molecular Biosciences (1)*
Topics vary.
Prerequisites: 16:695:538.

16:695:636 *Mini-Course 16 in Molecular Biosciences (1)*
Topics vary.
Prerequisites: 16:695:538.

Faculty

Molecular Biosciences Faculty

Department of Animal Sciences

Wendie Cohick, Ph.D., Cornell

Kenneth McKeever, Ph.D., Arizona

Dipak Sarkar, Ph.D., Oxford

Igor Shmarakov, Yuriy Fed'kovych Chernivtsi National

Department of Biochemistry and Microbiology

Debashish Bhattacharya, Ph.D., Simon Fraser

Jeffrey Boyd, Ph.D., Utah State

Maria Dominguez-Bello, Ph.D., Aberdeen

Max Häggblom, Ph.D., Helsinki

Arkadiusz (Arek) Kulczyk, Ph.D., Cambridge

Zachery Lonergan, Ph.D., Vanderbilt

Rohan Maddamsetti, Ph.D., Michigan

Jennifer Sun, Ph.D., Yale

Costantino Vetriani, Ph.D., Rome (Tor Vergata)

Lori White, Ph.D., Dartmouth

Gerben Zylstra, Ph.D., Michigan

Department of Biochemistry and Molecular Biology

Gary Brewer, Ph.D., Vanderbilt

Kiran Chada, Ph.D., Oxford

Ahmad Cluntun, Ph.D., Cornell

Paul Copeland, Ph.D., Virginia

Marc Gartenberg, Ph.D., Yale

Celine Gelinas, Ph.D., Sherbrooke

Estela Jacinto, Ph.D., California (San Diego)

Anat Kreimer, Ph.D., Pennsylvania

Michael Manhart, Ph.D., Rutgers

Keith Mickolajczyk, Ph.D., Pennsylvania

Vikas Nanda, Ph.D., Johns Hopkins

Smita Patel, Ph.D., Tufts

Yevgeniy Serebrenik, Ph.D., Yale

Ann Stock, Ph.D., California

Nancy Woychik, Ph.D., Wisconsin

Department of Biology

Daniel Shain, Colorado State

Nir Yakoby, Hebrew (Jerusalem)

Department of Biomedical Engineering

Ioannis Androulakis, Ph.D., Purdue

Nada Boustany, Ph.D., Harvard

Li Cai, Ph.D., Rutgers

Joseph Freeman, Ph.D., Rutgers

Anandi Krishnan, Ph.D., Pennsylvania

Prabhas Moghe, Ph.D., Minnesota

Biju Parekkadan, Ph.D., Harvard

Troy Shinbrot, Ph.D., Maryland

David Shreiber, Ph.D., Pennsylvania

Valerie Tutwiler, Ph.D., Drexel

Department of Cell Biology and Neuroscience

Victoria Abraira, Ph.D., Harvard

Qian Cai, Ph.D., Shanghai Second Medical

Lori Covey, Ph.D., Columbia

Santiago Cuesta, Ph.D., Universidad Nacional de Rosario (Argentina)

Gabriella D'Arcangelo, Ph.D., Stony Brook (SUNY)

Wei Dai, Ph.D., Baylor College

Brian Daniels, Washington (St. Louis)

Bonnie Firestein, Ph.D., California

Dunne Fong, Ph.D., Princeton

Martin Grumet, Ph.D., Johns Hopkins

Ronald Hart, Ph.D., Michigan

Rafiq Huda, Ph.D., Northwestern

Arnold Hyndman, Ph.D., California (Los Angeles)

Peng Jiang, Ph.D., Science and Technology (China)

Megerditch Kiledjian, Ph.D., Pennsylvania

Kelvin Kwan, Ph.D., Harvard

Alice Y. Liu, Ph.D., Mount Sinai School of Medicine

David Margolis, Ph.D., Washington

Gary Merrill, Ph.D., Michigan

Natasha O'Brown, Ph.D., Stanford

Max Tischfield, Ph.D., Harvard

Ping Xie, Ph.D., Honk Kong (Science & Technology)

Wise Young, Ph.D., Iowa, Stanford

Department of Chemical and Biochemical Engineering

Shishir Chundawat, Ph.D., Michigan

Charles M. Roth, Ph.D., Delaware

Department of Chemical Biology

Luca Cartegni, Ph.D., Pavia

Suzie Chen, Ph.D., Albert Einstein College of Medicine

Christina Glytsou, Ph.D., Università degli Studi di Padova

Fang Liu, Ph.D., Harvard

Matthew McBride, Ph.D., Harvard

Audrey Minden, Ph.D., Illinois

Nanjoo Suh, Ph.D., Illinois (Chicago)

Renping Zhou, Ph.D., California (Berkley)

Wei-Xing Zong, Ph.D., Medicine and Dentistry (New Jersey)

Department of Chemistry and Chemical Biology

Edward Arnold, Ph.D., Cornell

Jean Baum, Ph.D., California (Berkley)

Kenneth Breslauer, Ph.D., Yale

Richard Ebright, Ph.D., Harvard

Sagar Khare, Ph.D., North Carolina (Chape Hill)

Jeehiun Lee, Ph.D., Harvard

KiBum Lee, Ph.D., Northwestern

Wilma Olson, Ph.D., Stanford

G. Charles Dismukes, Ph.D., Wisconsin

Department of Civil and Environmental Engineering

Nicole Fahrenfeld, Ph.D., Virginia

Department of Computer Science

Casimir A. Kulikowski, Ph.D., Toronto

Department of Ecology, Evolution, and Natural Resources

Siobain Duffy, Ph.D., Pennsylvania

Peter Smouse, Ph.D., North Carolina

Department of Environmental & Occupational Health & Justice

Philip Demokritou, Ph.D., Harvard

Jeffrey Laskin, Ph.D., Buffalo (SUNY)

Helmut Zarbl, Ph.D., Toronto

Department of Environmental Sciences

Jeffra Schaefer, Ph.D., Rutgers

Lily Young, Ph.D., Michigan

Department of Food Science

George Carman, Ph.D., Illinois

Qingrong Huang, Ph.D., Nebraska (Lincoln)

Karl Matthews, Ph.D., Tennesee

Loredana Quadro, Ph.D., Naples Frederico II

Diana Roopchand, Ph.D., McGill

Donald Schaffner, Ph.D., Rutgers

Department of Genetics

Maureen Barr, Ph.D., Columbia

Christina Bergey, Ph.D., New York

Cara Brand, Ph.D., Rutgers

Christopher Ellison, Ph.D., California (Berkeley)

Derek Gordon, Ph.D., Rutgers

Gary Heiman, Ph.D., Rutgers

Devanshi Jain, Ph.D., Rutgers

Tara Matise, Ph.D., Pittsburgh

Kim McKim, Ph.D., Toronto

Tetsuya Nakamura, Ph.D., Tokyo

Bryce Nickels, Ph.D., Wisconsin

Christopher Rongo, Ph.D., Princeton

Karen Schindler, Ph.D., Pennsylvania

Gleb Shumyatsky, Ph.D., Illinois

Andrew Singson, Ph.D., California (San Diego)

Michael Verzi, Ph.D., Pennsylvania

Jinchuan Xing, Ph.D., Michigan

Srujana Yadavalli, Ph.D., Indian Institute of Science

Jiekun (Jackie) Yang, Ph.D., Rutgers

Lei Yu,, Ph.D., California Institute of Technology

Nathan Treff, Ph.D., Washington State

Department of Marine and Coastal Sciences

Kay Bidle, Ph.D., Scripps (California)

Benedict Borer, Ph.D., Swiss Federal Institute of Technology

Paul Falkowski, Ph.D., British Columbia

Lee Kerkhof, Ph.D., California (Berkeley)

Richard Lutz, Ph.D., Maine

Department of Medical Immunology

Christian Hinrichs, M.D., Ph.D., Iowa

Department of Medical Oncology

Pat Gulhati, M.D., Ph.D., Anderson Cancer Center

Department of Medicine

Zeeshan Ahmed, Ph.D., Wuerzberg

Moshmi Bhattacharya, Ph.D., McGill (Canada)

Martin Blaser, M.D., New York University

Christoph Buettner, Ph.D., Ludwig Maximilian (Munich)

Tricia Burdo, Ph.D., Pennsylvania State

Jian Cao, Ph.D., Shanghai Institute of Biochemistry and Cell Biology

Chang Chan, Ph.D., Princeton

Shin-Heng Chiou, Ph.D., Baylor

Jessie Yanxiang Guo, Ph.D., Duke

Bobby Brooke Herrera, Ph.D., Harvard

Ran Jing, Ph.D., Medical College of Wisconsin

M. Bishr Omary, M.D., Miami; Ph.D., California (San Diego)

Kyle Payne, Ph.D., Virginia Commonwealth

Ankit Shah, Ph.D., Cornell

Xiaoyang Su, Ph.D., Cornell

Department of Medical Oncology

Pat Gulhati, M.D., Ph.D., MD Anderson Cancer Center

Department of Molecular Biology and Biochemistry

Annika Barber, Ph.D., Jefferson Health

Samuel Bunting, Ph.D., Cambridge (UK)

Monica Driscoll, Ph.D., Harvard

Isaac Edery, Ph.D., McGill

Jia Fei, Ph.D., Zurich

Barth Grant, Ph.D., Princeton

Sam Guoping Gu, Ph.D., California (Santa Cruz)

Samuel Gunderson, Ph.D., Wisconsin (Madison)

Kenneth Irvine, Ph.D., Stanford

Tina Liu, Ph.D., Harvard

Yang Lyu, Ph.D., Sun Yat-sen

Fumio Matsumura, Ph.D., Nagoya

Kevin Monahan, Ph.D., Harvard

Eileen White, Ph.D., Stony Brook

Mikel Zaratiegui, Navarra (Spain)

Department of Neurology

Kouichi Ito, Ph.D., Jikei University School of Medicine

Eunsung Junn, Ph.D., Korea Advanced Institute of Science and Technology

Eleanna Kara, Ph.D., University College London; M.D., Aristotle (Thessaloniki)

Yoon-Seong Kim, Ph.D., Cornell; M.D., University Medical College

M. Maral (Mary) Mouradian, M.D., American (Beirut)

Department of Neuroscience and Cell Biology

Janet Alder, Ph.D., Columbia

Ruifeng (Ray) Cao, Ph.D., Ohio

Sara Di Rienzi, Ph.D., Washington

Emanuel DiCicco-Bloom, Ph.D., Princeton; M.D., Cornell

Cheryl Dreyfus, Ph.D., Cornell

M. Chiara Manzini, Ph.D., Columbia

Michael Matise, Ph.D., Pittsburgh

James Millonig, Ph.D., Princeton

Aaron Milstein, Ph.D., California (San Francisco)

Hiroko Nobuta, Ph.D., California (Los Angeles)

Pingyue Pan, Ph.D., Shanghai Jiao Tong; Ph.D.; M.D., Shanghai Second Medical University

Zhiping Pang, Ph.D., UT Southwestern

Tulsi Patel, Ph.D., Columbia

John Pintar

Mladen-Roko Rasin, Ph.D., M.D., Zagreb

David Seiden, Ph.D., Temple

Federico Sesti, Ph.D., Genoa (Italy)

Smita Varia, Ph.D., Kansas

Huaye Zhang, Ph.D., Virginia

Department of Neurosurgery

Detlev Boison, Ph.D., Köln (Germany)

Sangmi Chung, Ph.D., Cornell

Mi-Hyeon Jang

Yong Kim, Ph.D., Pohang University of Science and Technology

McKinnon, Randy, Ph.D., McMaster (Canada)

Department of Nutritional Sciences

Tracy Anthony, Ph.D., Illinois (Urbana-Champaign)

Paul Breslin, Ph.D., Pennsylvania

Harini Sampath, Ph.D., Wisconsin

Sue Shapses, Ph.D., Columbia

Judith Storch, Ph.D., Columbia

Malcolm Watford, Ph.D., Oxford

Department of Otolaryngology

Tejbeer Kaur, Ph.D., Southern Illinois

Todd Mowery, Ph.D., Indiana

Department of Pathology and Laboratory Medicine

Subhajyoti De, Ph.D., Cambridge (UK)

David Foran, Ph.D., Rutgers

Thomas Kirn, Jr., Ph.D., Dartmouth

Martha Soto, Ph.D., Harvard

William Wadsworth, Ph.D., Missouri (Columbia)

Donald Winkelmann, Ph.D., Wisconsin

Peter Yurchenco, Ph.D., Albert Einstein College of Medicine

Department of Pediatrics

Gaetan Barbet, Ph.D., Paris VII

Peter Cole, M.D., Cornell

Advaitha Madireddy, Ph.D., Pittsburgh

Qi Yang, Ph.D., Pittsburgh

Department of Pharmaceutics

Ah-Ng Tony Kong, Ph.D., Buffalo (SUNY)

Guofeng You, Ph.D., Clark

Department of Pharmacology

Steven An, Ph.D., Brown

J. Don Chen, Ph.D., Baylor

Huizhou Fan, Ph.D., Manitoba (Canada)

Fondell, Joseph, Ph.D., Stony Brook (SUNY)

Herranz, Daniel, Ph.D., Valencia

Jin, Shengkan (Victor), Ph.D., Cornell

Koziol-White, Cynthia, Ph.D., Wisconsin (Madison)

Li, Honghua, Ph.D., Southern California

Kiran Madura, Ph.D., Rochester

Ricardo Martinez-Zamudio, Ph.D., Georgetown

Conor McClenaghan, Ph.D., Oxford

Don Nyangahu, Ph.D., Capetown

Daniel Pilch, Ph.D., California (San Francisco)

Lauren Poole, Ph.D., Louisville

Arnold Rabson, M.D., Brown

Monica Roth, Ph.D., Yeshiva

Loren Runnels, Ph.D., Stony Brook (SUNY)

Alexey Ryazanov, Ph.D., Moscow

Nancy Walworth, Ph.D., Yale

William Welsh, Ph.D., Pennsylvania

X. F. Steven Zheng, Ph.D., Harvard

Scotto, Kathleen, Ph.D., Cornell

Valvezan, Alexander, Ph.D., Pennsylvania

Department of Pharmacology and Toxicology

Shuo Xiao, Ph.D., Georgia

Alison Bernstein, Ph.D., Washington (St. Louis)

Marion Gordon, Ph.D., Rutgers

Debra Laskin, Ph.D., Virginia Commonwealth

Department of Plant Biology

Rong Di, Ph.D., Iowa State

Eric Lam, Ph.D., California (Berkeley)

Michael Lawton, Ph.D., Oxford

Xiao-Ping Li, Ph.D., National (Singapore)

Pal Maliga, Ph.D., Szeged (Hungary)

John McLaughlin, Ph.D., Minnesota

Nilgun Tumer, Ph.D., Purdue

James White, Ph.D., Texas (Austin)

Department of Psychiatry

Paul Manowitz, Ph.D., Brandeis

Mark Rossi, Ph.D., Duke

Department of Psychology

David Barker, Ph.D., Rutgers

Department of Quantitative Biomedicine

Alexandra Deaconescu, Ph.D., Rockefeller

Jason Kaelber, Ph.D., Baylor

Department of Radiation Oncology

Zhaohui Feng, Ph.D., Zhejiang

Wenwei Hu, Ph.D., Zhejiang

Cristina Montagna, Ph.D., Milan (Italy)

Zhiyuan Shen

Bing Xia, Ph.D., Rutgers

Department of Surgery

Siobhan Corbett, Ph.D., Robert Wood Johnson

Shaohua Li, Ph.D., Southeast (China)

Steven Libutti, M.D., Columbia

Biochemistry 115 (SGS-BIOCHEM)

BIOCHEMISTRY 115

Degree Program Offered: Ph.D.

Please visit the Biochemistry website.

Program Description

By conducting independent research under the mentorship of a faculty advisor, the Graduate Program in Biochemistry prepares students for research-oriented careers in the biomedical sciences. Students who apply to this program are admitted via Molecular Biosciences, a first-year umbrella program that provides a core curriculum, as well as the opportunity to sample laboratories through rotations. Students tailor their training through selection of additional courses from a variety of disciplines.

Upon admission, students receive fellowship support for a full year, including tuition and health insurance coverage. Funding is assured for the duration of PhD training provided students are making progress and in good academic standing.

Campus Locations

Busch Campus - New Brunswick College Ave Campus - New Brunswick

Cook/Douglass Campus - New Brunswick

Biochemistry 115 (SGS-BIOCHEM)

Degree Requirements

Degree Requirements

- MBS first year curriculum (23 credits)
    - Students may use their lab rotation credits towards their formal course credit requirement.
- Biophysical Chem I (16:160:537) (3 credits)
- Seminar in Biochemistry (16:115:613/614)(1 credit)
    - (Substitutions may be granted with MBS Mini courses or seminars from other related programs.)
- Students may fulfill remaining credits with courses from the Biochemistry program or the broader Molecular Biosciences umbrella. Course selections outside this umbrella require the program director's permission.
- Research in Biochemistry is required each semester (16:115:701/702). (By arrangement) (24 credits minimum/40 credits suggested)
- Subsequent year courses required by all programs of the Molecular Biosciences:
    - One of three statistics courses, preferably in the second or third year: (16:115:557 or 16:125:578, or 16:960:501)
    - Graduate Student Research Seminar every semester of every year (16:695:600

Qualifying Exams

Requirements for admission to Ph.D. Candidacy are: (i) completion of the core curriculum, (ii) carrying a cumulative GPA of 3.0 or above, and (iii) satisfactory completion of Parts I and II of the qualifying examination.

The qualifying examination is divided into two parts: (I) a comprehensive written examination of the student's general knowledge in cell and molecular biology, biochemistry, and cognate disciplines, and (II) an evaluation of the student's research potential and dissertation potential.

Part I - Written Qualifying Examination A

All Ph.D. students are required to take part I of the examination upon completion of the core curriculum.

To be held in June of the first year or after completion of the set of core courses. The students will be given a selection of journal articles at least 14 days prior to the exam. There will be a series of written exams related to these articles to test basic knowledge, comprehension of the papers, and experimental design. The questions can be specific as well as wide-ranging.

The examination will be prepared and graded on a pass/fail basis by a committee of faculty members. A student must have a GPA of at least 3.0. to sit for the examination and must pass the examination to remain in the Ph. D. program.

If the performance of a student on the examination is unsatisfactory, the student may be given another chance. If that examination is still unsatisfactory the student will be required to terminate from the program.

Part II - Oral Qualifying Examination B

Oral Qualifying Proposition. After passing the written Qualifying Examination, each student is required to prepare and defend a proposition by the end of the second year in the Program. A proposition is an assertion concerning some current biochemistry and molecular biology questions. The student proposes an original mechanism or theory that could serve to explain a biological phenomenon in molecular terms. In connection with the proposition, the student also presents all relevant background and devises hypothetical experiments designed to test the proposal. The proposition may be in any area of biochemistry and molecular biology which interests the student, including the areas of the Ph.D. thesis.

Although there is no required format for the proposition, it is recommended to follow the NIH R01 or NSF GRFP proposal formats. These formats familiarize students with common mechanisms for seeking grant funding, requiring a structured presentation of a research proposal, and can also serve as a foundation for external fellowship applications.

Oral Qualifying Examination Committee. The proposition is submitted to an Oral Examination Committee, which consists of four members, at least three of whom are full members of the Biochemistry Graduate Program. This committee is typically chosen by the student in consultation with the Thesis Advisor who has the option of serving as one of the four committee members, and the Graduate Program Director. When present, the Thesis Advisor is expected to act as an observer. In the absence of the Thesis Advisor, Examination Committee members are chosen by the student in consultation with the Program Director or his/her designee. One member of the Oral Examination Committee must be an outside member: see the policy on what is considered an outside member in the section on Annual Research Advisory Committee. The Chair of the Oral Qualifying Examination committee must be a full member of the Biochemistry Graduate Program.

The student presents to this Committee a detailed write-up of the background and logic of the proposition, as well as the experiments to test the proposed hypotheses. Although the topic of the proposal is flexible, it is typically based on the research topic that will form the foundation of the student's thesis. At the discretion of the Thesis Advisor, the student's proposal may address a topic not directly related to the student's research. In this case, the chairperson of the Oral Examination Committee will assist the student in developing a proposal distinct from the student's research.

Oral Qualifying Defense. The oral examination should take the form of a presentation that explores the proposal in-depth, along with other areas related to the subject matter of the proposition, followed by a question period for the Committee to clarify details and to assess the preparedness of the student and the merit of the proposal. The committee chairperson is to submit a written report to the Program Director describing the result of this examination (pass/fail).

Two forms documenting the completion of the Oral Qualifying Exam are filed with the School of Graduate Studies Office: a Qualifying Exam B Form and an Annual Research Advisory Committee Meeting Form.

Visit Academic Forms

Deadlines. Part II of the Qualifying Examination must be completed with a passing grade by August 31 of the student's second year in the Program. Failure to complete Part II by this deadline is grounds for termination by the Graduate School due to non-compliance with Program requirements. Extensions to this deadline may be granted by the Graduate Program Director in special cases if requested by the student with the support of the Thesis advisor.

Final Defense

During the last semester of registration, the Ph.D. student is to prepare and present the final draft of their dissertation. It should be prepared in strict accordance with the instructions given in accordance with the School of Graduate Studies style guide.

Visit School of Graduate Studies Graduation Checklist for Ph.D. Degree

The dissertation itself must be a single entity and a clearly written account of the student's original research. In addition to a description of the details and results of the research, it should contain an appropriate general and contextual introduction, written at a level accessible to most other workers in the wider field. If the thesis consists of more than one piece of research, the elements of the dissertation must be related parts of a common research program and should be tied together in the introduction and the conclusion.

The final examination and dissertation defense is open to the public. An announcement of the final examination and dissertation defense must be posted and/or sent to the biosciences community via email listservs.

Biochemistry 115 (SGS-BIOCHEM)

Course Descriptions

Course Descriptions

16:160:537 ***Biophysical Chemistry I (Fall)***
Three-dimensional structures and interactions of proteins, nucleic acids, and their macromolecular assemblies, emphasizing principles of structural assembly and connections between structure and function, and introducing students to methods used to visualize structures. (Instructor: Richard H. Ebright)
Required Course for Biochemistry 115.

16:115:503 ***Biochemistry (3) (Fall)***
This course is the first semester of a two-semester integrated survey of biochemistry. Biochemistry describes in molecular terms the structures, mechanisms, and chemical processes shared by all organisms and provides organizing principles that underlie life in all its diverse forms. Students will gain a fundamental understanding of

what makes living systems tick at the molecular level. This includes a comprehensive survey of the chemistry of biological compounds, including proteins, polysaccharides, lipids, and nucleic acids, enzyme kinetics, bioenergetics, organelles, and cellular organization.

16:115:504 ***Biochemistry (3) (Spring)***
This course is the second semester of a two-semester integrated survey of biochemistry. Biochemistry describes in molecular terms the structures, mechanisms, and chemical processes shared by all organisms and provides organizing principles that underlie life in all its diverse forms. Students will gain a fundamental understanding of what makes living systems tick at the molecular level. This includes a comprehensive survey of the chemistry of biological compounds, including proteins, polysaccharides, lipids, and nucleic acids, enzyme kinetics, bioenergetics, organelles, and cellular organization. Expression and processing of biological information, including DNA replication; transcription into RNA; translation into protein, regulation, and recombinant DNA techniques.

16:115:511 ***Molecular Biology and Biochemistry (3) (Fall)***
This course is the first part of a two-semester sequence offered as the primary foundation course for students interested in pursuing modern biochemistry and molecular biology. This semester (01:694:407) provides a complete survey of Biochemistry topics, and the second semester (01:694:408) provides a thorough coverage of current ideas in Molecular Biology. (Instructors: Kevin Monahan and Tina Liu)

16:115:512 ***Molecular Biology and Biochemistry (3) (Spring)***
This course is intended to provide advanced instruction in topics in molecular biology. (Instructors: Sam Bunting, Sam Gunderson, and Tina Liu)

16:115:555 ***Epigenomics (3) (Fall)***
Epigenetic states represent one of the most transformative discoveries in molecular biology over the past two decades, revealing fundamental mechanisms that govern gene expression, developmental processes, and the origins of many human diseases. This course introduces the principles of chromatin dynamics and the structural and biochemical modifications that underlie epigenetic regulation. Students will explore how epigenetic information is established, maintained, and inherited, gaining an understanding of the biochemical properties of chromatin and their impact on gene regulation. In addition, students will learn to use bioinformatic tools to analyze molecular structures and genomic sequencing data. The course emphasizes a holistic understanding of the eukaryotic nucleus, including the organization and evolution of genomes in unicellular and multicellular organisms, and the mechanisms that modulate chromatin. Students will present and discuss primary research articles to strengthen critical analysis skills, and several guest lectures will highlight cutting-edge technologies and emerging frontiers in epigenomics. (Instructors: Sam Guoping Gu and Mikel Zaratiegui.)

16:115:556 ***Ethical Science Conduct (1) (Spring)***
This course discusses the definitions and ethical problems caused by the fabrication of data, falsification of results, plagiarism, and other behaviors inconsistent with ethical scientific conduct.
This course is required for all SGS Biomedical PhD students and Master's of Science in Biomedical Sciences students. The course complies with NIH guidelines for RCR training. Students in their 5th year of graduate school must take a refresher training course (16:115:558).

16:115:557 ***Statistics in Biomedical Sciences (3) (Fall/Spring)***
This is a graduate-level applied statistics course designed for PhD students in the Biomedical Sciences graduate programs in New Brunswick/Piscataway to ensure Rigor and Reproducibility training for conducting research. In this course, we will focus on building your foundation in statistical handling for your biomedical research, including

rigorous experimental design to answer the question of interest, appropriate analysis methods, and accurate interpretation of findings. The course will cover the fundamental statistics methods in biomedical research including estimation, hypothesis testing (parametric and non-parametric), ANOVA, and regression methods (normal, binary, and time-to-event variables). For more information regarding Rigor and Reproducibility training, refer to the School of Graduate Studies website.

16:115:558 ***Ethical Scientific Conduct Refresher (0) (Spring)***
This a refresher course for Ethical Scientific Conduct (16:115:556) for 5th year Ph.D. students and those in their 3rd year of the MD/Ph.D. program. It discusses the definitions and ethical problems caused by the fabrication of data, falsification of results, plagiarism, and other behaviors inconsistent with ethical scientific conduct.
This course is required for all SGS Biomedical PhD students and Master's of Science in Biomedical Sciences students. The course complies with NIH guidelines for RCR training.

16:115:701/702 ***Research in Biochemistry (by arrangement) (Fall/Spring)***

Biochemistry 115 (SGS-BIOCHEM)

Admission Deadlines

Admission Deadlines

For best consideration apply by these dates:

APPLICATION TYPE	US APPLICANTS	NON-US APPLICANTS
Ph.D.	December 1	December 1

Biochemistry 115 (SGS-BIOCHEM)

List of Courses

List of Courses

YEAR	TERM	COURSE	CREDITS	TITLE	CROSS LISTING
2024	Spring	16:115:702		Research in Biochemistry	
2024	Fall	16:115:701		Research in Biochemistry	
2024	Spring	16:115:558	0.00	Ethical Scientific Conduct	
2024	Spring	16:115:800	0.00	Matriculation Cont'd	
2024	Spring	16:115:811	0.00	0.00 Graduate Fellowship	
2024	Fall	16:115:800	0.00	0.00 Matriculation Cont'd	
2024	Fall	16:115:811	0.00	0.00 Graduate Fellowship	
2024	Fall	16:115:855	0.00	0.00 Graduate Traineeship	
2024	Spring	16:115:556	1.00	Ethical Sci Conduct	
2024	Spring	16:115:512	3.00	Molecular Biology and Biochemistry	01:694:408:01 (08455)
2024	Spring	16:115:557	3.00	Statistics in Biomedical Sciences	
2024	Fall	16:115:511	3.00	Mol Bio & Biochem	01:694:407:01 (09378)
2024	Fall	16:115:555	3.00	Chromatin and Epigenomics	01:694:413:01 (09381)
2024	Fall	16:115:557	3.00	Statistics in Biomedical Sciences	
2024	Spring	16:115:504	4.00	Biochemistry	11:115:404:02 (11669)
2024	Fall	16:115:503	4.00	Biochemistry	11:115:403:01 (12711)
2024	Spring	16:115:866	6.00	Full Ga Appointment	
2024	Spring	16:115:877	6.00	Full Ta Appointment	
2024	Fall	16:115:866	6.00	Full Ga Appointment	
2024	Fall	16:115:877	6.00	Full Ta Appointment	

Cell and Developmental Biology 148 (SGS-CDB)

Cell and Developmental Biology 148

Degree Programs Offered: M.S., Ph.D.

Visit the Cell and Developmental Biology website.

Program Description

By conducting independent research under the mentorship of a faculty advisor, the Graduate Program in Cell & Developmental Biology prepares students for research- oriented careers in the biomedical sciences. Students who apply to this program are admitted via Molecular Biosciences, a first-year umbrella program that provides a core curriculum, as well as the opportunity to sample laboratories through rotations. Students tailor their training through selection of additional courses from a variety of disciplines.

Upon admission to the Ph.D. Program, students receive fellowship support for a full year, including tuition and health insurance coverage. Funding is assured for the duration of Ph.D. training provided students are making progress and in good academic standing.

Campus Locations

Busch Campus - New Brunswick College Ave Campus - New Brunswick

Cook/Douglass Campus - New Brunswick

Cell and Developmental Biology 148 (SGS-CDB)

About

About the CDB Program

The graduate program in Cell and Developmental Biology (CDB) offers both Ph.D. and M.S. degrees and is part of a diverse, interactive community of biological scientists working at Rutgers, Robert Wood Johnson Medical School (RWJMS), and the Cancer Institute of New Jersey. The graduate program has approximately 130 faculty members from the two universities with research that spans the broad fields of molecular biology, cell biology, cancer biology, genetics, neurobiology, and developmental biology. Researchers draw upon diverse experimental systems ranging from tissue culture, invertebrates, and humans. The goal of the program is to provide a challenging and rewarding environment in which students can develop fully their research skills for future careers in academia or in biotech/pharma.

Applicants for the Ph.D. are admitted through an umbrella program, the Graduate Programs in Molecular Biosciences, which consists of five graduate programs and manages admissions and first year courses for Ph.D. students (see listing for MBS in this catalog).

Applicants to the M.S. program apply directed to the CDB Graduate Program.

The Cell and Developmental Biology Graduate Program offers advanced studies leading to Ph.D. and MS degrees.

The Ph.D. requirements include a set of first-year core courses, encompassing a broad range of biological topics. In addition, a series of seminar courses designed to enhance critical thinking and experimental design are incorporated into the first year curriculum. At the end of the first year and going forward, students are required to conduct laboratory research, pass parts I and II of the qualifying examination, and write and defend a research dissertation. All Ph.D. students will receive a competitive stipend, health benefits, and tuition remission for the duration of their graduate studies, provided that academic standards are met and progress towards a Ph.D. is maintained. All students must maintain a cumulative grade-point average of 3.0 or better to remain in the program.

The M.S. requirements include a minimum of 30 credits. Students may select either a research thesis or non-research thesis option of study. All students must maintain a cumulative grade-point average of 3.0 or better to remain in the program. NO financial aid is offered to Master's students; however, limited TA positions are sometimes available to support Masters training.

Cell and Developmental Biology 148 (SGS-CDB)

M.S. Degree Requirements

M.S. Degree Requirements

Masters with Research Thesis:

Minimum of 24 course credits, and 6 credits of research leading to the completion of a thesis. No more than 12 of the 24 credits can be taken at the 300 or 400 advanced undergraduate level:

- 6 credits of Cell and Developmental Biology
- 6 credits of Biochemistry and Molecular Genetics
- 2 credits of seminar courses
- 4 credits of laboratory rotation. (A written report is required which must be approved by the Program Director for credit and retained in the student's program file for review by the preliminary examination and thesis committees. Lab rotations are limited to students enrolled for the first 3 semesters in the program.)
- 7-10 credits of electives. (Most courses in the Microbiology, Biochemistry, Physiology and Neurobiology graduate programs are acceptable.)

Course Recommendations for the Research Thesis Track

6 credits of Cell and Developmental Biology Requirements

3 credits - Molecular Biology of Cells (148:514)

3 credits - Developmental Biology (148:504)

6 credits of Biochemistry and Molecular Genetics Requirements

3 credits - Biochemistry (115:511)

3 credits - Biochemistry (115:512)

2 Seminars (148:598) Two seminar courses are required

(3) Laboratory Rotations (148:610, 611 – 2 credits each) (one semester only, up to 4 hours allowed as substitution for electives)- A written report is required which must be approved by the Program Director for credit and retained in the student's program file for review by the preliminary examination and thesis committees. Laboratory rotations are limited to students enrolled for the first 3 semesters in the program.

7-10 Electives/ Advanced Minicourses. Most courses in the Microbiology, Biochemistry, Physiology, and Neurobiology graduate programs are acceptable. No more than 3 hours of Advanced Problems in Biology (148:509,510) or another independent study course can be applied toward the M.S. with thesis and used to

compute a student's grade point average for requirements. A paper is required for all independent study courses. This paper must be submitted for final credit and will be retained in the student's program file for review by the M.S. examination thesis committee.

Total number of course credits: 24
6 credits (minimum) Thesis Research (148:701,702)
The Graduate School requires a minimum of 30 credits consisting of coursework and thesis research for the Plan A M.S.

Masters Without Thesis:

Minimum of 30 course credits:

- 6 credits of Cell and Developmental Biology
- 12 credits of Biochemistry, Molecular Biology and/or Molecular Genetics
- 2 credits of seminar courses
- 1-2 credits in Advanced Problems in Biology. This involves the completion of substantive literature research on a current problem in Cell and Developmental Biology – this is the core of the MS non-research thesis for this track. A faculty advisor will be arranged after discussion between the faculty advisor and student.
- 10-14 Elective Credits. Most courses in the Microbiology, Biochemistry, Physiology and Neurobiology graduate programs are acceptable.

Course Recommendations for the Non-Research Thesis Track

6 credits of Cell and Developmental Biology Requirements

3 credits - Molecular Biology of Cells (148:514)

3 credits - Developmental Biology (148:504)

6 credits of Biochemistry and Molecular Genetics Requirements

3 credits - Biochemistry (115:511)

3 credits - Biochemistry (115:512), Molecular Biology (146:478), or Molecular Genetics (11:126:481)

2 Seminars (148:598) Two seminar courses are required

1-2 credits Advanced Problems in Cell and Developmental Biology (148:509,510)- a paper is required for course credit. This involves the completion of substantive literature research on a current problem in cell or developmental biology. The topic will be assigned by a faculty advisor. This paper, usually 40 to 60 pages in length, should contain a comprehensive review of the current literature relevant to the topic and should also include citations and discussion of papers in the current literature.

10-14 Electives/ Advanced Minicourses. Most courses in the Microbiology, Biochemistry, Physiology, and Neurobiology graduate programs are acceptable.
The Graduate School requires a minimum of 30 course credits for the Non-Research Thesis.

Students doing the non-thesis option may count a combined total of 6 credits of Lab Rotations and Adv Problems toward their degree

Laboratory Rotations

Rotations are not required, but are recommended for students to find a lab if they want the Thesis Option. A rotation is usually done over a period of 7 to 8 weeks but can be extended by mutual consent of the faculty sponsor and student. If you plan on doing two rotations in the Fall, you should register for 4 credits of Lab Rotation. Students are required to provide the Graduate Program Office with a Lab Rotation form signed by their rotation advisor before beginning the rotation. At the end of each rotation, the student will submit a short summary to the research advisor. A copy of the summary must also be submitted to the Graduate Program Office for the grade to be submitted. Once a student has chosen a lab to do their thesis research, the student may register for Research directly with the permission of their thesis sponsor.

1. Each Rotation = 2 credits

2. Rotations are graded Pass/Fail

3. Rotation Dates: (Fall) Rotation 1 (1st 8 weeks) (check dates with instructor)Rotation 2 (2nd 8 weeks) (check dates with instructor)
(Spring) Rotation 3 (3rd 8 weeks) (check dates with instructor)

4. Lab Rotation Course # for registration is 16:148:610, 611

Final Committees:

The final committees for both Thesis and Non-Thesis will evaluate the research thesis or literature review and administer a final oral comprehensive examination, covering the thesis or review and general subject matter. A student must have a cumulative grade point average of 3.0 or better to take the final oral examination.

Committee Composition:

Thesis Committee

Each committee must consist of at least 3 faculty members or associate members of the student's graduate program. One non-program member is permitted, but only by requesting special permission of the Program Director.

The examination will be an oral defense of the student's dissertation and will be presented before the examination committee.

Non-Thesis Committee

Each committee must consist of 3 faculty members or associate members from within the student's graduate program. Outside members are allowed, but these are in addition to the 3 program members; no substitutes for the 3 are permitted.

A general examination will consist of: evaluation and approval of independent study and final paper, and evaluation of student's graduate accomplishments. Final paper usually consists of 40 to 60 pages. The exam will be an oral presentation of the thesis to the committee, followed by an examination by the committee.

Transfer of Credit:

Up to 12 graduate course credits can be transferred toward the M.S. degree. Credits may not be transferred until 12 credits of graduate course work have been completed in the Graduate School in New Brunswick. Courses must have been taken with the last 6 years and passed with a grade of B or better.

Advisor:

The CDB program director will serve as a general advisor for first year M.S. students concerning course selection, approval etc. By the end of the first year, each student should have identified a permanent advisor.

Requirements for Transfer from the M.S. to the Ph.D. Track:

MS students who are interested in pursuing a Ph.D. should consult with the Director with regard to the guidelines for transfer. To be considered for the Ph.D. track, the student should:

1) have completed at least 12 credits of core Ph.D. courses or equivalent at Rutgers/RBHS 2) provide evidence of excellent academic potential – usually a 3.0 GPA or better and 3) obtain a letter from a faculty member addressing the applicant's research potential and agreeing to support the student for their PhD research. Students who qualify and are approved for transfer must then take and pass the written Ph.D. qualifying examination given in June.

Academic Standards and Termination: A student is required to carry a cumulative GPA of 3.0 to remain in good standing in the program. It is also expected that the student will receive a grade of "Satisfactory" (S) for research credits. Students failing to achieve the 3.0 GPA will be sent a warning letter and be given a year to remedy that deficiency, and to bring his/her cumulative GPA up to 3.0 or better. Failing to do so will result in termination from the program. A notice of termination will be sent to the Dean of the Graduate School- New Brunswick.

Cell and Developmental Biology 148 (SGS-CDB)

Ph.D. Degree Requirements

Ph.D. Degree Requirements

All Ph.D. students are expected to complete the first-year curriculum of the Graduate Programs in Molecular Biosciences and the requirements of the CDB Program. These requirements include completing a series of core/elective courses and laboratory research (totaling a minimum of 72 credits), passing parts I and II of the qualifying examination, and writing and defending a research dissertation.

Credit Requirements

Satisfactory completion of a minimum of 72 credits is required for the Ph.D. degree. This is to include a minimum of 32 credits of coursework at the 500 or greater level and at least 24 credits of Research in Biology (16:148:701(Fall); 16:148:702 (Spring)). In special cases, and with the approval of the Program Director, some course credits will be accepted at the 300-400 level. A maximum of 6 credits of Laboratory Rotation in Molecular Biosciences or Cell and Developmental Biology may be used to fulfill the coursework requirement for the Ph.D.

All students are required to maintain continuous registration until the completion of the final examination. Students will have to re-apply for admission if there is a lapse in matriculation.

Transfer of Credit

See information on transfer of credits in the Academic Standards section.

Qualifying Exams

Requirements for admission to Ph.D. Candidacy are: (i) completion of the core curriculum, (ii) carrying a cumulative GPA of 3.0 or above, and (iii) satisfactory completion of Parts I and II of the qualifying examination.

The qualifying examination is divided into two parts: (I) a comprehensive written examination of the student's general knowledge in cell and molecular biology, biochemistry and cognate disciplines (administered through the Molecular Biosciences Program), and (II) an evaluation of the student's research potential and dissertation potential.

Part I - Written Qualifying Examination A

All Ph.D. students are required to take part I of the examination upon completion of either the first year of full-time study or the core curriculum, whichever comes first.

To be held in June of the first year or after completion of the set of core courses. The students will be given a selection of journal articles at least 14 days prior to the exam. There will be a series of written exams related to these articles to test basic knowledge, comprehension of the papers, and experimental design. The questions can be specific as well as wide-ranging.

The examination will be prepared and graded on a pass/fail basis by a committee of faculty members. A student must have a GPA of at least 3.0. to sit for the examination and must pass the examination to remain in the Ph.D. program.

If the performance of a student on the examination is unsatisfactory, the student may be given another chance. If that examination is still unsatisfactory the student will be required to terminate from the program.

Part II - Oral Qualifying Examination B

Part II of the examination should take place once the student has identified a thesis research laboratory (usually by the end of the second year of full-time study). The student should have a permanent thesis advisor by the beginning of their second year of Ph.D. studies, and it is then that the student should work towards completing part II of the qualifying examination. Since he/she will be in the initial stages of the research problem the research proposal presents an opportunity to thoroughly research the background of the problem and to develop a logical research plan for the dissertation research. Preliminary research results are not required for this proposal and completion of this part of the examination.

Oral Qualifying Proposition: For the oral examination, the student shall prepare a written research proposal with a title, the significance of the work, and a plan for accomplishing the research proposed. The proposal will consist of an introduction and background relevant to the proposed study, the significance of the proposed study, and the experimental plan. It will be presented to a committee of at least 4 members (the advisor, 2 other faculty members of the CDB faculty, and an outside member).

Oral Qualifying Examination Committee. Members of the oral preliminary exam committee may or may not serve on the student[1]s thesis committee. However if choosing a committee that will also serve as the thesis committee, the regulations of the Rutgers Graduate School state that at least one of the faculty must not be a member of the

Cell & Developmental Biology Graduate program. The external committee member may be a member of another program in the Graduate Programs in Molecular Biosciences or from outside of RU or RWJMS. The committee chairperson is to submit a written report to the program director of the result of this examination (pass/fail).

Oral Qualifying Defense. The presentation will be followed by questions from the committee relating to problems that may arise with the proposed research plan, expected results and their interpretation and alternate experimental strategies.

Two forms documenting the completion of the Oral Qualifying Exam are filed with the School of Graduate Studies Office: a Qualifying Exam B Form and an Annual Research Advisory Committee Meeting Form.

Visit Academic Forms

Deadlines. Part II of the Qualifying Examination must be completed with a passing grade by August 31 of the student's second year in the Program. Failure to complete Part II by this deadline is grounds for termination by the Graduate School due to non-compliance with Program requirements. Extensions to this deadline may be granted by the Graduate Program Director in special cases if requested by the student with the support of the Thesis advisor.

Annual Research Advisory Committee

After the successful completion of both written (Part I) and oral (Part II) qualifying examinations, an Annual Research Advisory Committee (commonly referred to as "**Thesis Committee**") must be formed.

The role of the Thesis Committee is to (1) evaluate the progress of the thesis research, (2) to make suggestions about research directions as appropriate, (3) advise the student prior to writing their thesis to agree on a possible thesis date, and (4) conduct the final examination and thesis defense.

FORMING AN ANNUAL RESEARCH ADVISORY COMMITTEE

Most often, the Oral Examination Committee that served in the Oral Qualifying Examination goes on to constitute the Thesis Committee, but the student can choose to recruit a different roster. The committee shall consist of at least four members, of whom at least three are active members of the Cell and Developmental Biology Graduate Program, which may or may not include the student's advisor. One member should be an "Outside Member."

An Outside Member may not be a member of the thesis advisor's department or institute, reside in the same building, or have close personal or professional ties with the student or advisor. An Outside Member may be a Rutgers faculty member or someone from outside the University, but must hold an earned doctoral degree. (See "Policy on the Outside Member" below.)

The student and research advisor will set up a Thesis Committee within three months following completion of both qualifying exams.

Written approval from the Program Director is required for all committee members. Any committee structure changes also require the Program Director's approval. The Thesis Advisory Committee chairperson must be a full graduate program faculty member and may not be the student's advisor.

ANNUAL RESEARCH ADVISORY COMMITTEE MEETINGS

Annual Research Advisory Committee Meetings are mandatory and the responsibility of the student.

Students must meet with their Thesis Committee formally at least once a year, and about six months before the anticipated date of degree completion, to discuss their progress. Students in off-campus labs, usually with an on-campus mentor of record, should have two meetings a year. Students are also encouraged to consult with their committee members informally.

The Annual Research Advisory Committee Meeting form, documenting each meeting, must be completed and submitted via the instructions listed at the bottom of the form. Students should fill out most of the form before the meeting and then let the Thesis Committee Chair complete the evaluation sections. Students are encouraged to circulate the form for signature via DocuSign. The Graduate Program Administrative Assistant's email for submission is molbiosci@rutgers.edu.

An informal progress report may be requested by the Research Advisor or Thesis Committee Chair prior to the meeting, but is not required.

Should a member of the Committee be unavailable, the Chair of the Thesis Committee should appoint either a temporary or permanent replacement.

**No student will be allowed to register without documentation of having taken the Qualifying Examinations or held their Annual Research Advisory Committee meeting within the past 12-month period.*

Go to Academic Forms for the Annual Research Advisory Committee Meeting form and instructions for submission.

ACADEMIC FORMS

***Policy on the "Outside Member"**: The School oof Graduate Studies requires that one member of a Ph.D. dissertation committee be an individual who is not a member of the student's degree program. This individual may be a Rutgers faculty member or someone from outside the university. Outside members are intended to bring a fresh perspective to the supervision of a student's research and to bring an unbiased look at the quality of the work. Therefore, they must be people with no conflict of interest with regard to the assessment of the student's work. In some fields, especially the biomedical sciences, there is such a broad inclusion of relevant individuals on program faculties that it has become quite difficult to find a Rutgers faculty member to appoint as an outside member of a dissertation committee who is not already a member of the program faculty. At the same time, the membership of these programs is drawn from a wide range of units within Rutgers and RBHS, such that there can easily be faculty members of a program who have little professional contact. It is, therefore, permissible, in such situations, that the "outside member" be drawn from within the program faculty when it can be shown that that individual has no personal or professional ties to the student, the advisor, and other members of the committee. In these cases, the outside member may not be a member of a department already represented on the committee. In addition, the "outside member" may not serve as dissertation committee chair. Requests for these exceptions will have to demonstrate that this is the case and will require approval by the School of Graduate Studies.

Final Defense

During the last semester of registration, the Ph.D. student is to prepare and present the final draft of their dissertation. It should be prepared in strict accordance with the instructions given in accordance with the School of Graduate Studies style guide.

Visit School of Graduate Studies Graduation Checklist for Ph.D. Degree

The dissertation itself must be a single entity and a clearly written account of the student's original research. In addition to a description of the details and results of the research, it should contain an appropriate general and contextual introduction, written at a level accessible to most other workers in the wider field. If the thesis consists of more than one piece of research, the elements of the dissertation must be related parts of a common research program and should be tied together in the introduction and the conclusion.

The final examination and dissertation defense is open to the public. An announcement of the final examination and dissertation defense must be posted and/or sent to the biosciences community via email listservs.

Academic Standards

REVIEW AND ASSESSMENT GUIDELINES

The Graduate Program expects a culture of mutual respect between students and faculty members and that this includes excellent communication among them. In particular, students must allow sufficient time for faculty members to review and assess their work and faculty members must be as prompt as circumstances allow in responding to their students with such assessments.

As a general rule, materials should be submitted by the student at least two weeks before an examination or other deadline, and at least two weeks, but not more than four weeks, should be allowed for the faculty member to inform students of the assessment. Exceptions to this rule might include end-of-semester "crunch," students or faculty members in the field without good access to the internet, and medical incapacity.

It is the responsibility of advisors and students to keep committees informed and engaged throughout the process of the student's research and to ensure that the committee is given adequate time to assess the final product before it is defended. For example, students should alert faculty members to their intention to submit work at a certain time, and faculty members should indicate their expectations for the timing of their responses.

General Academic Guidelines

Please refer to the Rutgers School of Graduate Studies Policies and Procedures for University academic policies, codes of conduct, and bylaws.

Visit School of Graduate Studies Policies and Procedures

Academic Standards

Ph.D. students must carry a 3.0 cumulative grade point average as a condition for being permitted to take the qualifying examinations. The student is also expected to receive a grade of "Satisfactory" (S) for research credits. These same requirements apply to a change from non-matriculated to matriculated status.

Termination

Students failing to achieve these grade point averages for two consecutive semesters will be requested to leave the Program. The procedure for termination is as follows: When a student's grade point average falls below the required level, he/she (and the student's advisor) will receive a letter of warning. Students will be expected to remedy their deficiencies in the next semester. Should the student not improve in the next semester, he/she will be requested to leave the Program. A notice of termination will be sent to the Dean of the Graduate School - New Brunswick.

Note: The general academic status of the student is monitored by the student's advisor and also the Student Affairs and Standards Committee. It is essential that the student's advisor make sure that each student maintains good progress toward his/her degree.

Transfer of Credits

Up to 24 of credits required for a doctoral degree may be transferred from another institution under the following restrictions:

- Credits must not have been used toward meeting the requirements of the undergraduate degree.
- Official transcripts must be provided.
- The courses must be relevant to the student's program of study.
- The student must have earned at least 9 credits at Rutgers and be in good standing in a graduate program prior to the transfer request.
- Transfers may be disallowed under the following circumstances: (a) courses were taken six or more years earlier; (b) courses do not meet standards of graduate courses, (c) grades were less than B.

Requests for approval of transfer of credits should be made using the fillable form available on the website of the School of Graduate Studies. All requests must include the official transcript, and indicate the approval of the Graduate Director, including the name of the Graduate Director and contact information. In some cases, a statement explaining the relevance to the program of study, and verifying that the courses meet starts of graduate courses may be required.

Visit Application for Transfer of Credit

Transcript Problems

All unresolved problems with a student's transcript must be corrected prior to admission to candidacy. Students may be required to submit an updated transcript copy prior to final candidacy form review.

Language Requirement

There is no language requirement but one may be recommended at the discretion of the student's major professor and committee.

Time Requirement

The Ph.D. degree should be completed in less than 6 years full-time. Note: A Master of Science degree is not required for a Ph.D.

Course Descriptions

Course Descriptions

16:148:504 ***Developmental Biology (Spring)***
This course considers the genetic, molecular, and cellular processes that lead from egg to embryo to mature organism. Development is the complex cascade of progressive and typically irreversible changes during which cells

become specialized and fashioned into functional fabrics with predictable organization along major body axis. It accomplishes two basic functions: it generates cellular diversity and order within each generation and provides continuity of life from one generation to the next. This course will emphasize the cellular and molecular mechanisms underlying pattern formation and cellular specialization and will present model organisms used in the study of developmental processes. You will acquire an understanding of the basic molecular and cellular mechanisms involved in embryogenesis, organ system development and differentiation, the variation in developmental pathways of representative invertebrates and vertebrates, and a modern understanding of how development shapes our understanding of human health, disease, and ethical decision making. (Instructor: Arnold Hyndman and Natasha O'Brown)

16:148:598 ***Seminar in Cell and Developmental Biology (Fall)***
During this seminar, graduate students present on a topic of their choice under the guidance of their instructor. Topic focus rotates between Cancer Stem Cells and Parasites and Cancer. (Instructor: Dunne Fong)

Cell and Developmental Biology 148 (SGS-CDB)

Admissions

Admissions

All Ph.D. applications will be reviewed by the joint Graduate Programs in Molecular Biosciences Admissions Committee. The deadline for completed applications to the Ph.D. program is **December 1** of each year; the Admissions Committee begins reviewing applications early in December.

MS applications are reviewed separately by the Cell and Developmental Biology Master's Admissions Committee. The deadline for completed MS application review is **April 1**.

The application form is the same for both the MS and Ph.D. programs.

Cell and Developmental Biology 148 (SGS-CDB)

Transfer of Credit

Transfer of Credit

Credit may not be transferred until 12 credits of graduate courses with grades of B or better have been completed in the Graduate Program. Forms for transfer credit may be obtained from the program Office of the Graduate School. The request for transfer of credits must be approved by the Director of the Graduate Program. A maximum of 24 course credits is transferable. Transfer of credit will be allowed only for those courses relevant to the student's program. For transfer, courses must have been taken within the past 6 years and passed with a grade of B or better.

Cell and Developmental Biology 148 (SGS-CDB)

Graduate Advisor

Graduate Advisor

The Molecular BioSciences Graduate Programs has a Faculty Committee of Advisors for the first year Ph.D. Students in the Molecular BioSciences Programs. Contact Ms. Carolyn Ambrose or Diane Murano for specifics.

Examinations

Examinations

Qualifying Examination for the Ph.D. The qualifying examination is divided into two parts: (I) a comprehensive examination of the student's general knowledge in cell and molecular biology, biochemistry and cognate disciplines (administered through the Molecular Biosciences Program), and (II) evaluation of the student's research potential and dissertation potential. All Ph.D. students are required to take part I of the examination upon completion of either the first year of full-time study or the core curriculum, whichever comes first.

Part II of the examination should take place once the student has identified a thesis research laboratory (usually by the end of the second year of full time study). For the oral examination, the student shall prepare a written research proposal with a title, significance of the work, and plan for accomplishing the research proposed. Members of the oral preliminary exam committee may or may not serve on the student[1]s thesis committee.

However if choosing a committee that will also serve as the thesis committee, the regulations of the Rutgers Graduate School state that at least one of the faculty must not be a member of the Cell & Developmental Biology Graduate program. The external committee member may be a member of another program in the Graduate Programs in Molecular Biosciences or from outside of RU or RWJMS. The committee chairperson is to submit a written report to the program director of the result of this examination (pass/fail).

Requirements for admission to Ph.D. Candidacy are: (i) completion of the core curriculum,

(ii) a cumulative GPA of 3.0 or above, and (iii) satisfactory completion of Parts I and II of the qualifying examination. Following admission to candidacy the student is expected to keep his/her thesis advisory committee members informed of research progress in annual committee meetings.

The Thesis Dissertation Committee: The student is to present his/her thesis dissertation before a committee of 4: Chair (the thesis advisor, CDB member), 2 faculty members from the CDB program, and an outside member*. The final draft of the dissertation should be prepared in strict accordance with the instructions given in the pamphlet Style Guide for Thesis and Dissertation Preparation, available at the Office of Graduate School. Two copies of the thesis are required to be submitted to The Graduate Office, and one copy to the Graduate Program's office.

The dissertation itself must be a single entity and a clearly written account of the student[1]s original research. In addition to a description of the details and results of the research, it should contain an appropriate general and contextual introduction, written at a level accessible to most other workers in the wider field. If the thesis consists of more than one piece of research, the elements of the dissertation must be related parts of a common research program and should be tied together in the introduction and the conclusion.

The final examination and dissertation defense is open to the public. An announcement of the final examination and dissertation defense must be posted and/or sent to the biosciences community via email listservs.

Policy on the "Outside Member"

The Graduate School requires that one member of a Ph.D. dissertation committee be an individual who is not a member of the student's degree program. This individual may be a Rutgers faculty member or someone from outside the university. Outside members are intended to bring a fresh perspective to the supervision of a student's research and also to bring an unbiased look at the quality of the work. Therefore, they must be people with no conflict of interest with regard to assessment of the student's work.

In some fields, especially the biomedical sciences, there is such a broad inclusion of relevant individuals on program faculties that it has become quite difficult to find a faculty member to appoint as an outside member of a dissertation committee who is not already a member of the program faculty. At the same time, the membership of these programs is drawn from a wide range of units within Rutgers and RWJMS, such that there can easily be faculty members of a program who have little professional contact.

It is therefore permissible, in such situations, that the "outside" member be drawn from within the program faculty when it can be shown that that individual has no personal or professional ties to the student, the adviser and other members of the committee. In these cases the outside member may not be a member of a department already represented on the committee. In addition, the "outside" member may not serve as dissertation committee chair. Requests for these exceptions will have to demonstrate that this is the case and will require approval by the Graduate School. **IN SHORT, THE OUTSIDE MEMBER CANNOT BE IN THE SAME DEPARTMENT, THE SAME BUILDING OR HAVE CLOSE SCIENTIFIC TIES TO THE STUDENT'S LAB.**

*The outside examiner can be either outside the Program or the University. For appointments of "outside examiners" who do not hold any membership in the graduate faculty, approval of the Program Director and the Graduate School is necessary. The student and/or the advisor is to make the request to the Program Director, who in turn will forward to the Office of the Graduate School a letter requesting the appointment of this individual to the committee.

Cell and Developmental Biology 148 (SGS-CDB)

Ph.D. Curriculum

Ph.D. Curriculum

Ph.D. Curriculum

GRADUATE PROGRAM IN CELL & DEVELOPMENTAL BIOLOGY

Curriculum

First Year

Molecular Biosciences Requirements - 23 credits

Fund of Molec Biosciences (16:695:538) 6 credits

Experimental Meth in Molec Biosci (16:695:539) 2 credits

Essential Skills I (16:695:551) 1 credit

Ethical Scientific Conduct (16:115:556) 1 credit

Lab Rotation I and II (16:695:615) 4 credits

Mini-Courses in Molec Biosciences (16:695:621-638, 1 credit each) 6 credits

Essential Skills II (16:695:552) 1 credit

Lab Rotation III (16:695:615) 2 credits

Second Year

CDB Requirements

Statistics (16:115:557 or 16:125:578 or 16:960:501) 3 credits

Seminar in CDB or any MBS minicourse (Example, 16:148:598) 1 credit

Prog Reports of MBS Students (1 per semester) (16:695:600) 0 credits

Research Credits (variable)

Third Year

CDB Requirements

Seminar (from any program) 1 credit

MBS Minicourse or Seminar (from any program) 1 credit

Elective of your choice or 3 MBS minicourses (from any program) 3 credits

Prog Reports of MBS Students (1 per semester) (16:695:600) 0 credits

Research Credits (variable)

Fourth Year

Research Credits (variable) 1 credit

Prog Reports of MBS Students (1 per semester) (16:695:600)

16:115:558 Ethical Scientific Conduct Refresher. This course is required of all 5th year graduate students as well as MD/PhD in the 3rd year of PhD. This is a case-based course that reviews the most important topics in Responsible Conduct of Research. It complies with NIH requirements.

Total course credits: 32, Thesis Research (148:701,702): 40 credits minimum. The Graduate School requires a minimum of 72 credits consisting of coursework and thesis research for the Ph.D. degree.

Qualifying Examination

The Ph.D. qualifying examination consists of two parts. The first part is a written comprehensive test. The second will be an oral examination based on a proposal written on the area of the student's dissertation research.

Part I of Qualifying Examination

To be held in June of the first year or after completion of the set of 4 core courses. The students will be given a selection of journal articles at least 14 days prior to the exam. There will be a two-day written exam related to these articles to test basic knowledge, comprehension of the papers, and experimental design. The questions can be specific as well as wide-ranging.

The examination will be prepared and graded on a pass/fail basis by a committee of faculty members. A student must have a GPA of at least 3.0 to sit for the examination and must pass the examination to remain in the Ph. D. program. If the performance of a student on the examination is unsatisfactory, the student may be given another chance. If that examination is still unsatisfactory the student will be required to terminate from the program.

Part II of Qualifying Examination

Research Proposal: The student should have a permanent thesis advisor by the beginning of their second year of Ph.D. studies, and it is then that the student should work towards completing part II of the qualifying examination. Since he/she will be in the initial stages of the research problem the research proposal presents an opportunity to thoroughly research the background of the problem and to develop a logical research plan for the dissertation research. Preliminary research results are not required for this proposal and completion of this part of the examination.

The proposal will consist of an introduction and background relevant to the proposed study, the significance of the proposed study, and the experimental plan. It will be presented to a committee of at least 4 members (the advisor, 2 other faculty members of the CDB faculty, and an outside member). The presentation will be followed by questions from the committee relating to problems that may arise with the proposed research plan, expected results and their interpretation and alternate experimental strategies.

Microbiology and Molecular Genetics 681 (SGS-MICROBIO)

MICROBIOLOGY AND MOLECULAR GENETICS 681

Please visit the Microbiology and Molecular Genetics website.

Degree Programs Offered: M.S., Ph.D.

Program Description:

By conducting independent research under the mentorship of a faculty advisor, the Graduate Program in Microbiology & Molecular Genetics prepares students for research- oriented careers in the biomedical sciences. Students who apply to this program are admitted via Molecular Biosciences, a first-year umbrella program that provides a core curriculum, as well as the opportunity to sample laboratories through rotations. Students tailor their training through selection of additional courses from a variety of disciplines.

M.S. Program Requirements

M.S. Program Requirements

The selection of courses is largely governed by individual student interests and needs, in consultation with his/her advisor and /or thesis committee. However, all degree candidates, both Research and Non-Research Thesis are required to complete the following coursework as part of their academic program:

REQUIRED COURSES FOR MS DEGREE (THESIS AND NON-THESIS OPTIONS)

One of the following courses earning a grade of B or better:	Fall	3 credits
• Human Genetics (16:681:535) • Current Concepts of Immunology (16:681:543) (Fall semester of even years) • Microbial Life (16:682:501)		
Microbial Biology and Biochemistry (16:115:512) - earning a grade of B or better	Spring	3 credits
Two seminar courses (1 credit each, earning a grade of B or better)	Fall/Spring	2 credits

Microbiology and Molecular Genetics seminars are intended to expose the student to the current research literature in the discipline and to serve as a training ground for oral presentations and critical evaluation of papers. It is recommended that students (1) take seminars in a variety of different topic areas in order to sample different disciplines; and (2) informally audit seminars to gain experience by observing other student presentations, particularly in the early semesters.

LAB ROTATIONS IN MICROBIOLOGY AND MOLECULAR GENETICS

Laboratory Rotations are not required, but are recommended for students to find a lab if they want the Thesis option. A rotation is usually done over a period of 7 to 8 weeks but can be extended by mutual consent of the faculty sponsor and student. If students plan on doing two rotations in the Fall, they should register for 4 credits of Lab Rotation.

Students are required to provide the Program Office with a rotation form, signed by their rotation advisor, before beginning the rotation. Once a student has chosen a lab to do their thesis research, they may register for Research directly with the permission of their thesis sponsor.

At the end of each rotation, the student will submit a laboratory notebook and a short summary to the rotation advisor. A copy of the summary must also be submitted to the Graduate Program Office for the grade to be submitted.

Performance will be graded on a pass/fail basis. A limit of 6 rotation credits can be counted toward the M.S. degree.

Lab Rotation in Microbiology and Molecular Genetics (16:681:610/612)	Fall	4 credits
Lab Rotation in Microbiology and Molecular Genetics (16:681:611)	Spring	2 credits

Research Thesis Option

A minimum of 30 credits must be earned, 24 credits in coursework and seminars, and 6 in research. No more than 12 of the 24 credits can be taken at the 300 or 400 advanced undergraduate level.

A maximum of 6 credits of Laboratory Rotation in Microbiology and Molecular Genetics may be applied as part of the coursework requirement for this degree option. A research thesis must be submitted for review by a thesis committee and should demonstrate (1) familiarity with the research literature in a specific area, (2) understanding of the research methodology of that area, and (3) the ability to organize research results in a coherent and meaningful manner.

Required courses leading to a research Thesis paper for Masters Candidates:

Research in Microbiology and Molecular Genetics (16:681:701:PI Section #)	Fall	6 credits maximum toward degree
Research in Microbiology and Molecular Genetics (16:681:702:PI Section #)	Spring	

The PI or Advisor section number can be found under the Research in Microbiology and Molecular Genetics listing in the schedule of courses. If you do not see your PI/Advisor listed, please notify the graduate office at molbiosci@rutgers.edu to add their section. *Note: The section numbers are subject to change so please be sure to check the schedule of courses each semester.

Non-Research Thesis Option

A minimum of 30 credits must be earned in courses and seminars (not research). Upon approval by the Program Director, 1 – 2 credits may be Independent Study (Library Research Project) while the thesis is being written. To fulfill the requirements for this option, the candidate must write a critical review, usually consisting of at least 40-60 pages of some subject under the direction of a faculty member, and demonstrate a good command of the scientific literature in that specific subject area.

Students doing the Non-Research Thesis option may count a combined total of 6 credits from lab rotation and Independent Study toward their degree.

Independent Study in Microbiology and Molecular Genetics (16:681:641)	Fall	2 credits maximum toward degree
Independent Study in Microbiology and Molecular Genetics (16:681:642)	Spring	

CANDIDACY, COMMITTEE AND THESIS GUIDELINES

Candidacy forms for the Masters Degree must be submitted to the Program Director one semester prior to the final oral comprehensive exam for admission to candidacy to be considered. Final review of degree eligibility is undertaken by the Director of the Graduate Program, who will certify completion of all program requirements.

Please see the required forms and instructions on the Academic Forms page.

COMMITTEE COMPOSITION:

A Master of Science committee consisting of 3 Program faculty members will evaluate the research or non-research thesis and administer a final oral comprehensive examination covering the thesis and general subject matter. (See also the section headed General Academic Guidelines below).

Note: A student must have a cumulative grade point average of 3.00 or better to take the final oral examination.

Research Thesis Committee:

Each Committee must consist of at least 3 members or associate members of the student's program, one of which must be the student's advisor. Non-program members are permitted by special request to the Program Director.

Non-Research Thesis Committee:

Examination committees consist of 3 faculty members or associate members from within the student's graduate program, one of which must be the student's advisor. Outside members are allowed by special request to the Program Director.

FINAL REQUIREMENTS:

The following items must be presented to the Director in order for the candidate to be granted the Master of Science degree. You may also find the required forms, style guides, and checklists on the Academics Forms page.

- Signed Thesis Title Page
- Thesis Abstract
- Application for M.S. Degree Form signed by thesis committee members
- Completed MMG Exit Survey
- Required Paperwork

GENERAL ACADEMIC GUIDELINES

1. Academic Standards: A student is required to earn a B grade or better in the required courses described above. Students must earn a 3.00 grade point average as a condition for being permitted to take the final examination for the Masters degree. This same requirement applies to a change from non-matriculated to matriculated status.

2. Termination: Students failing to achieve these grade point averages for two consecutive semesters will be requested to leave the Program. The procedure for termination is as follows: When a student's grade point average falls below the required level, he/she (and the student's advisor) will receive a letter of warning. Students will be expected to remedy their deficiencies in the next semester. Should the student not improve in the next semester, he/she will be requested to leave the Program. A notice of termination will be sent to the Dean of the Graduate School – New Brunswick.
Note: The general academic status of the student is monitored by the student's advisor and also the Student Affairs and Standards Committee. It is essential that the student's advisor make sure that each student maintains good progress toward his/her degree.

3. Final Examination for Master of Science Candidates: Students who fail the final oral exam for the Masters degrees are permitted to request a second examination be administered. Further examinations are prohibited in the event the student fails twice. Appeals should be directed to the Student Affairs and Standards Committee.

4. Transfer of Credits: The transfer of up to 12 credits from another institution is allowable. A student wanting to transfer credit should present a written rationale and justification for each course requested for transfer to the Program Director along with the appropriate form. Justification should include academic need and relevance of each course, evidence of academic level (text used, examination questions), and an indication of the equivalency to existing programs courses. It is strongly recommended that students seeking to transfer credits first submit a draft of the justification statement to their advisor prior to its submission to the Student Affairs and Standards Committee. A student must take a minimum of 12 credits of matriculated graduate work in the Microbiology and Molecular Genetics Graduate Program before application for transfer can be considered.

5. Transcript Problems: All unresolved problems with a student's transcript must be corrected prior to admission to candidacy. Students may be required to submit an updated transcript copy prior to final candidacy form review.

6. Registration Requirement: All students are required to maintain continuous registration until the completion of the final degree. A minimum registration of 1 credit is required for Ph.D. candidates and M.S. thesis option candidates; M.S. non-thesis option candidates may register for matriculation continued with the approval of the Director. Contact the Program office for exceptions to this registration requirement.

7. Language Requirement: There is no language requirement but one may be recommended at the discretion of the student's major professor and committee.

8. Time Requirement: The M.S. degree should normally be completed in less than 3 years full-time.

9. Residency Requirement: There is no residency requirement for M.S. candidates. Ph.D. candidates must satisfy a one year requirement. (See Doctor of Philosophy Degree Candidate Requirements).

10. Guidelines for Transfer to the Ph.D. Program: M.S. students who are interested in pursuing a Ph.D. should consult with the Director with regard to the guidelines for transfer. To be considered for the Ph.D. track the student should 1) have completed at least 12 credits of Core PhD courses or equivalent at Rutgers/UMDNJ. 2) provide evidence of excellent academic potential – usually a 3.0 GPA or better, and 3) obtain a letter from a faculty member addressing the applicant's research potential and agreeing to support the student for their Ph.D. research. Students who qualify and are approved for transfer must then take and pass the written Ph.D. qualifying examination given in June.

Microbiology and Molecular Genetics 681 (SGS-MICROBIO)

Ph.D. Degree Requirements

Ph.D. Degree Requirements

All Ph.D. students are expected to complete the first-year curriculum of the Graduate Programs in Molecular Biosciences and the requirements of the MMG Program. These requirements include completing a series of core/elective courses and laboratory research (totaling a minimum of 72 credits), passing parts I and II of the qualifying examination, and writing and defending a research dissertation.

Credit Requirements

Satisfactory completion of a minimum of 72 credits is required for the Ph.D. degree. This is to include a minimum of 32 credits of coursework at the 500 or greater level and at least 24 credits of Research in Microbiology and Molecular Genetics (16:681:701(Fall); 16:681:702 (Spring)). In special cases, and with the approval of the Program

Director, some course credits will be accepted at the 300-400 level. A maximum of 6 credits of Laboratory Rotation in Molecular Biosciences or Microbiology and Molecular Genetics may be used to fulfill the coursework requirement for the Ph.D.

All students are required to maintain continuous registration until the completion of the final examination. Students will have to re-apply for admission if there is a lapse in matriculation.

Transfer of Credit

See information on transfer of credits in the Academic Standards section.

Qualifying Exams

Requirements for admission to Ph.D. Candidacy are: (i) completion of the core curriculum, (ii) carrying a cumulative GPA of 3.0 or above, and (iii) satisfactory completion of Parts I and II of the qualifying examination.

The qualifying examination is divided into two parts: (I) a comprehensive written examination of the student's general knowledge in cell and molecular biology, biochemistry and cognate disciplines (administered through the Molecular Biosciences Program), and (II) an evaluation of the student's research potential and dissertation potential.

Part I – Written Qualifying Exam A

The Molecular Biosciences Graduate Program administers this first portion of the qualifying exam. Under usual circumstances, this exam may be taken only by students who have successfully completed the Molecular Biosciences core curriculum and maintained a 3.0 GPA or better. All Ph.D. students are required to take part I of the examination upon completion of either the first year of full-time study or the core curriculum, whichever comes first.

The exam is held in June. The students will be given a selection of journal articles at least 14 days prior to the exam. There will be a series of written exams related to these articles to test basic knowledge, comprehension of the papers, and experimental design. The questions can be specific as well as wide-ranging.

The examination will be prepared and graded on a pass/fail basis by a committee of faculty members. A student must pass the examination to remain in the Ph. D. program.

If a student's performance on the examination is unsatisfactory, the student may be given another chance. If the second attempt is still unsatisfactory, the student will be required to terminate from the program.

Part II - Oral Qualifying Exam B

The second part consists of an oral presentation and defense of a research proposal. The exam aims to determine if the student is intellectually prepared to begin dissertation research. Are they familiar with the background literature and understand how to do the experiments? More importantly, why are they doing the experiments? What specific results and conclusions will be gained? How does this relate to larger questions in biology?

In a rush to begin the experiments and produce results, students may skip much of the background reading essential to understanding the purpose and focus of their project. Lacking this knowledge, it is possible to miss subtle but important details in the experiments or results. Without knowledge of the previous work by others, students often fail to make connections between their findings and others' results.

The purpose of the research proposal is, therefore, to provide students with the time and means to do the proper background reading to develop a clear picture of the purpose and direction of their project. Having this background will make the student's graduate research more exciting and productive.

Students should take the exam during their second year of graduate school after they have worked in the lab for a while and have settled on a topic for their thesis.

Note that a large number of preliminary results are not a prerequisite for the presentation of the proposal. The goal of the exam is to be sure that the student is intellectually prepared to carry out the research and that they have a firm understanding of the background material and the issues that they will be investigating. It is not to evaluate the quality or the quantity of the work the student has accomplished (that comes later in the thesis defense). If the student has weaknesses in a particular area, it is better to address and remedy it early in their graduate career.

A second benefit of having the Oral Qualifying Exam early in the student's graduate career is that they will begin to know other professors besides their research advisor through forming their Thesis Advisory Committee. These professors will not only be valuable resources for advice on their experiments but will also be able to help when the student starts to look for postdoctoral positions. These professors will be able to monitor the student's progress through graduate school and will, therefore, be able to offer a more in-depth letter of recommendation than someone who has only read the thesis and spent several hours in the defense several months before graduation.

A final benefit of completing the exam in the second year is that it begins the process of writing the thesis. Sections of the Qualifying Exam proposal often serve as a basis to build upon for thesis chapters. The effort put into writing the Oral Qualifying Exam proposal will also help later with writing papers and research proposals for postdoc fellowship applications.

Forming a Thesis Advisory Committee

Students must form their Thesis Proposal Committee and schedule their qualifying exam within one (1) year of passing the written qualifying exam. In rare circumstances, the Director may approve an extension of this time limit, with appropriate justification, in written form, by the student and the student's research advisor.

The student shall select four (4) members to serve on their Thesis Proposal Committee with the agreement of their advisor. All members should be active faculty in the MMG graduate program, and no more than two shall be from the student's department, center, or institute. A student's advisor may be included as a member of the committee but is not required. Ad hoc members from outside the program are permitted with the program director's approval.

During the exam, the Thesis Proposal Committee will (a) elect a chairperson who must be a member of the MMG program but not the student's advisor; (b) review academic performance and future coursework with the student; and (c) administer the examination.

Academic Requirements

Although it is not expected that all the course requirements will be completed by the time of the exam, the student should have completed the Molecular Biosciences first-year curriculum and at least one additional Microbiology and Molecular Genetics course requirement. To take the exam, the student must have a cumulative GPA of 3.00 in these courses.

The Thesis Proposal Committee is responsible for reviewing the student's academic record. Before the examination begins the student should provide the most current academic transcript and CV for the committee members to evaluate. The committee should note any deficiencies in the student's grades or course work in a letter by the chairperson of the committee.

Thesis Proposal Guidelines and Oral Presentation Examination

The students should write a proposal that will be defended orally before the examination committee. Although the format and topic can be flexible, it is recommended that the proposal be similar to an NIH RO1 proposal that is on or closely related to the student's planned research for their thesis. The proposal should contain a statement of the specific aims, background, significance, a description of the research design and methods, and a bibliography. Potential problems and outcomes of the experiments should be anticipated. The student should be familiar with what different types of results may be expected from the experiment, how they will analyze the data, and what type of conclusions can be drawn from this analysis. The written research proposal should be presented to the Examination Committee at least a week before the examination.

The purpose of this part of the examination is to determine if the student is intellectually prepared to begin dissertation research, not to judge their research results. The student should be taking the exam within their first full year in the lab. Preliminary results are, therefore, not a prerequisite for the presentation of the proposal.

The written research proposal should be approximately ten (10) pages in length and sent to the committee members to review at least one (1) week before the examination.

The student should give a short presentation with slides outlining the background, questions, preliminary data, and experiments described in the proposal. Committee members are expected to question the student on the proposal to gauge the student's knowledge of the background literature along with their understanding of the proposed experiments and how they relate to the questions they are trying to address. If the committee feels there are gaps in the student's knowledge they can recommend solutions, such as additional course work, journal clubs, writing a review, re-writing the proposal, etc.

Forms and Post-Exam Requirements

Students should supply the Thesis Proposal Committee with two forms prior to the qualifying examination.

- Qualifying Exam B (Proposition) Form (the official Rutgers SGS Application for Admission to Candidacy for the Degree of Doctor of Philosophy)
- Annual Research Advisory Committee Meeting Form (for students in the SGS Biomedical graduate programs)

Forms can be found on the Academic Forms page under Qualifying Exam B.

Shortly before the exam, students should complete Part 1 of the Qualifying Exam B form and present it to the Chairperson of their committee at the time of the examination.

Each committee member should sign both forms before being routed to the graduate program director and the SGS Senior Associate Dean for signature.

After the examination, the committee chairperson shall submit a written report to the Program Director and committee with a copy sent to the student. The report should indicate the strengths and weaknesses of the candidate and whether the student has passed the examination and should be admitted to Ph.D. candidacy. The Program Director will notify the student of any reservations or conditions that the Committee has placed.

The student is responsible for properly submitting both completed forms to SGS and the program administrators to verify that the exam was successfully completed.

See Guidelines for Students for the appropriate time for faculty review and assessment.

FAILURE TO PASS EXAMS

Successful completion of both parts of the qualifying examination in a timely manner is required to remain in the graduate program. Students who fail either or both sections of the Qualifying Examination may request a second examination. A second instance of failure in either section of the Examination will result in termination. The Qualifying Examination Committee may determine that the student is eligible for a terminal Master of Science degree. Subsequent appeals should be directed to the Student Affairs and Standards Committee.

Annual Research Advisory Committee

After the successful completion of both written (Part I) and oral (Part II) qualifying examinations, an Annual Research Advisory Committee (commonly referred to as "**Thesis Committee**") must be formed.

The role of the Thesis Committee is to (1) evaluate the progress of the thesis research, (2) to make suggestions about research directions as appropriate, (3) advise the student prior to writing their thesis to agree on a possible thesis date, and (4) conduct the final examination and thesis defense.

FORMING AN ANNUAL RESEARCH ADVISORY COMMITTEE

Most often, the Oral Examination Committee that served in the Oral Qualifying Examination goes on to constitute the Thesis Committee, but the student can choose to recruit a different roster. The committee shall consist of at least four members, of whom at least three are active members of the Molecular Biosciences Graduate Programs, which may or may not include the student's advisor. One member should be an "Outside Member."

An Outside Member may not be a member of the thesis advisor's department or institute, reside in the same building, or have close personal or professional ties with the student or advisor. An Outside Member may be a Rutgers faculty member or someone from outside the University, but must hold an earned doctoral degree. (See "Policy on the Outside Member" below.)

The student and research advisor will set up a Thesis Committee within three months following completion of both qualifying exams.

Written approval from the Program Director is required for all committee members. Any committee structure changes also require the Program Director's approval. The Thesis Advisory Committee chairperson must be a full graduate program faculty member and may not be the student's advisor.

ANNUAL RESEARCH ADVISORY COMMITTEE MEETINGS

Annual Research Advisory Committee Meetings are mandatory and the responsibility of the student.

Students must meet with their Thesis Committee formally at least once a year, and about six months before the anticipated date of degree completion, to discuss their progress. Students in off-campus labs, usually with an on-campus mentor of record, should have two meetings a year. Students are also encouraged to consult with their committee members informally.

The Annual Research Advisory Committee Meeting form, documenting each meeting, must be completed and submitted via the instructions listed at the bottom of the form. Students should fill out most of the form before the meeting and then let the Thesis Committee Chair complete the evaluation sections. Students are encouraged to circulate the form for signature via DocuSign. The Graduate Program Administrative Assistant's email for submission is molbiosci@rutgers.edu.

An informal progress report may be requested by the Research Advisor or Thesis Committee Chair prior to the meeting, but is not required.

Should a member of the Committee be unavailable, the Chair of the Thesis Committee should appoint either a temporary or permanent replacement.

**No student will be allowed to register without documentation of having taken the Qualifying Examinations or held their Annual Research Advisory Committee meeting within the past 12-month period.*

Go to Academic Forms for the Annual Research Advisory Committee Meeting form and instructions for submission.

ACADEMIC FORMS

***Policy on the "Outside Member":** The School oof Graduate Studies requires that one member of a Ph.D. dissertation committee be an individual who is not a member of the student's degree program. This individual may be a Rutgers faculty member or someone from outside the university. Outside members are intended to bring a fresh perspective to the supervision of a student's research and to bring an unbiased look at the quality of the work. Therefore, they must be people with no conflict of interest with regard to the assessment of the student's work. In some fields, especially the biomedical sciences, there is such a broad inclusion of relevant individuals on program faculties that it has become quite difficult to find a Rutgers faculty member to appoint as an outside member of a dissertation committee who is not already a member of the program faculty. At the same time, the membership of these programs is drawn from a wide range of units within Rutgers and RBHS, such that there can easily be faculty members of a program who have little professional contact. It is, therefore, permissible, in such situations, that the "outside member" be drawn from within the program faculty when it can be shown that that individual has no personal or professional ties to the student, the advisor, and other members of the committee. In these cases, the outside member may not be a member of a department already represented on the committee. In addition, the "outside member" may not serve as dissertation committee chair. Requests for these exceptions will have to demonstrate that this is the case and will require approval by the School of Graduate Studies.

Final Defense

Go to Academic Forms for Final Dissertation and Graduation checklists, forms, style guidelines, and instructions for submission to the School of Graduate Studies.

ACADEMIC FORMS

The dissertation document must be a single entity and a clearly written account of the student[1]s original research. In addition to a description of the details and results of the research, it should contain an appropriate general and contextual introduction, written at a level accessible to most other workers in the wider field. If the thesis consists of more than one piece of research, the elements of the dissertation must be related parts of a common research program and should be tied together in the introduction and the conclusion.

The final examination and dissertation defense will be scheduled by both the student and their Thesis Committee and open to the public. An announcement of the final examination and dissertation defense must be circulated by the Office of the Director of the Graduate Program to all major participating units.

Final review of degree eligibility is undertaken by the Program Director, who will certify completion of all program requirements. One copy of the dissertation title and abstract pages must be submitted to the Director along with the original Ph.D. Candidacy Form. An "Exit Survey" form must also be completed and submitted to the Director at that time.

Academic Standards

The Graduate Program expects a culture of mutual respect between students and faculty members and that this includes excellent communication among them. In particular, students must allow sufficient time for faculty members to review and assess their work and faculty members must be as prompt as circumstances allow in responding to their students with such assessments.

As a general rule, materials should be submitted by the student at least two weeks before an examination or other deadline, and at least two weeks, but not more than four weeks, should be allowed for the faculty member to inform students of the assessment. Exceptions to this rule might include end-of-semester "crunch," students or faculty members in the field without good access to the internet, and medical incapacity.

It is the responsibility of advisors and students to keep committees informed and engaged throughout the process of the student's research and to ensure that the committee is given adequate time to assess the final product before it is defended. For example, students should alert faculty members to their intention to submit work at a certain time, and faculty members should indicate their expectations for the timing of their responses.

General Academic Guidelines

Please refer to the Rutgers School of Graduate Studies Policies and Procedures for University academic policies, codes of conduct, and bylaws.

Visit School of Graduate Studies Policies and Procedures

Academic Standards

Ph.D. students must carry a 3.0 cumulative grade point average as a condition for being permitted to take the qualifying examinations. The student is also expected to receive a grade of "Satisfactory" (S) for research credits. These same requirements apply to a change from non-matriculated to matriculated status.

Termination

Students failing to achieve these grade point averages for two consecutive semesters will be requested to leave the Program. The procedure for termination is as follows: When a student's grade point average falls below the required level, he/she (and the student's advisor) will receive a letter of warning. Students will be expected to remedy their deficiencies in the next semester. Should the student not improve in the next semester, he/she will be requested to leave the Program. A notice of termination will be sent to the Dean of the Graduate School - New Brunswick.

Note: The general academic status of the student is monitored by the student's advisor and also the Student Affairs and Standards Committee. It is essential that the student's advisor make sure that each student maintains good progress toward his/her degree.

Transfer of Credits

Up to 24 of credits required for a doctoral degree may be transferred from another institution under the following restrictions:

- Credits must not have been used toward meeting the requirements of the undergraduate degree.
- Official transcripts must be provided.
- The courses must be relevant to the student's program of study.
- The student must have earned at least 9 credits at Rutgers and be in good standing in a graduate program prior to the transfer request.
- Transfers may be disallowed under the following circumstances: (a) courses were taken six or more years earlier; (b) courses do not meet standards of graduate courses, (c) grades were less than B.

Requests for approval of transfer of credits should be made using the fillable form available on the website of the School of Graduate Studies. All requests must include the official transcript, and indicate the approval of the Graduate Director, including the name of the Graduate Director and contact information. In some cases, a statement explaining the relevance to the program of study, and verifying that the courses meet starts of graduate courses may be required.

Visit Application for Transfer of Credit

Transcript Problems

All unresolved problems with a student's transcript must be corrected prior to admission to candidacy. Students may be required to submit an updated transcript copy prior to final candidacy form review.

Language Requirement

There is no language requirement but one may be recommended at the discretion of the student's major professor and committee.

Time Requirement

The Ph.D. degree should be completed in less than 6 years full-time. Note: A Master of Science degree is not required for a Ph.D.

Course Descriptions

Course Descriptions

16:682:501 ***Microbial Life (3)***
(Instructors: Max Haggblom and Lee Kerkhof)

16:681:535 ***Human Genetics (3) (Fall)***
This is a foundational graduate course in human genetics, covering classical and non-classical patterns of inheritance, human genome structure and evolution, normal and abnormal processes of gene expression, molecular genetic pathology, and laboratory and statistical methods for genetic analysis. (Instructor: Jinchuan Xing)

16:681:543 ***Current Concepts of Immunology (3) (Fall even years)***
This course will serve as an introduction to the immune system, with a focus on mammalian organisms (particularly humans). In general terms, we will uncover how the cells and organs of the immune system orchestrate protective responses to pathogen infection across distance and time in the body. While immunology encompasses a vast body of facts and terminologies, we will deemphasize rote memorization and classification. Instead, a primary goal of this 500-level course is to engage your critical thinking and problem-solving abilities, as well as to introduce you to primary research addressing contemporary immunological questions. During this course, we will undertake our studies guided by two principle understandings about the immune system in particular. These "enduring understandings" are the big picture ideas that tie together all the information in the course. They will inform the essential questions we explore in our studies and the learning objectives we will attempt to achieve by the end of the semester. (Instructors: Brian Daniels, Peng Jiang, and Ping Xie)

16:681:601 ***Advanced Topics in Microbiology and Molecular Genetics (by arrangement)***

16:681:602 ***Molecular Microbial Oceanography (Fall even years)***
The oceans represent the oldest, evolving continuum on Earth with its evolutionary heritage being imprinted in the genes of marine microbes. Microorganisms (i.e., phytoplankton, protists, bacteria, archaea, viruses) account for >95% of all oceanic biomass and drive oceanic biogeochemical cycles, with microbial processes happening in the microscale (<100 μm) but manifesting on mesoscales (~100 km). Yet, we are still faced with fundamental open questions about the diversity, activity, regulation, and evolutionary development of their biochemical and molecular strategies. This is largely due to the fact that microbes are hard to differentiate and study using traditional, ecological observational techniques.

This course examines historical, established, and emerging, cutting-edge efforts to elucidate the nature and impact of microbial genes, proteins, and metabolites, and will link them to ocean ecosystem, physical, and biogeochemical processes through biochemistry, molecular biology, and genome-based approaches with innovative instrumentation and modeling. These efforts have begun to shed novel insight into staggering microbial biodiversity and a range of cellular strategies, including: microbial diversity and activity, the distribution and connectivity of microbial genes, interactive processes, responses to changing environmental conditions, cell communication, diagnostic biomarkers, nutrient transformations, the biological pump, and elemental cycling. (Instructor: Kay Bidle)

16:681:611/613 ***Lab Rotation in Microbiology and Molecular Genetics (Fall) (by arrangement)***

16:681:612/614 ***Lab Rotation in Microbiology and Molecular Genetics (Spring) (by arrangement)***

16:681:641/642 ***Independent Study for Microbiology and Molecular Genetics (Fall/Spring) (by arrangement)***

16:681:671 ***Topics in the Translation of Research to Medicine (1 credit)***
This course seeks to keep M1 and M2 M.D./Ph.D. students grounded in research while exploring connections between clinical practice and foundational research. Upon completion of this course, students should be able to design and execute a translational research project. Students identify a clinically relevant topic and describe the problem with the help of clinical research and review articles. They also perform in-depth literature review to find the most relevant basic/translational science that informs the current clinical understanding. A simple example would be about a new chemotherapeutic. Finally, students present the clinical data and then dig into mechanism. (Instructor: Paul Copeland)

16:681:681 ***Topics of Molecular Medicine***
(Instructor: Sunita Chaudhary)

16:681:701/702 ***Research in Microbiology and Molecular Genetics (by arrangement) (Fall/Spring)***

Application Requirements

Application Requirements

- Online application
- Application fee (non-refundable $70). Please see Graduate Admissions website for information on fee waivers.
- One transcript from each post-secondary institution attended.
- Your application will be reviewed with an unofficial transcript. Please use the upload links in the Grad Portal to upload your own, unofficial transcript copies. This will enable the Admissions Committee to review your application without waiting for individual institutions to send originals. If you are offered admission, you must submit your official transcript at that time.
- A personal statement
- Explain your motivation for pursuing a PhD degree
- Describe your previous research experience(s) highlighting objectives, challenges and outcomes.
- If there is something you feel the admissions committee should know about you, include it in your statement.
- Your personal statement should be between 1 and 2 pages in length.
- Three letters of recommendation
- Letters from faculty who supervised your research or know you well from a classroom experience will help the admissions committee evaluate your motivation, work ethic, curiosity, initiative, persistence, intellectual ability and willingness to work with others
- TOEFL or IELTS (for international applicants)
- GRE general test is not required.
- Curriculum Vitae (resume) may be uploaded as supporting documentation (this is strongly suggested)

Admission Deadlines

Admission Deadlines

APPLICATION TYPE	US APPLICANTS	NON-US APPLICANTS
Ph.D.	December 1	December 1
M.S.	April 1	April 1

Microbiology and Molecular Genetics 681 (SGS-MICROBIO)

List of Core Courses

List of Core Courses

- Fundamentals of Molecular Biosciences (16:695:538)
  Experimental Methods in Molecular Biosciences (16:695:539)
  Essential Skills I (16:695:551)
- Lab Rotation I (16:695:615)
  Essential Skills (16:695:552)
- Ethical Scientific Conduct (16:115:556)
- Lab Rotation II (16:695:616)
- Mini Courses in Molecular Biosciences (16:695:621-638, 1 credit each)
- Progress Reports in Molecular Biosciences (16:695:600) - required every semester until completion
- Microbial Life (16:682:501)
- Current Concepts of Immunology (16:681:543)
  Human Genetics (16:681:535)
- Statistics in Biomedical Sciences (16:115:557)
- Progress Reports of Graduate Students in Molecular Biosciences (16:695:600)
  Research in Microbiology and Molecular Genetics (16:681:701)
- Research in Microbiology and Molecular Genetics (16:681:702)

Pharmacology, Cellular and Molecular 718 (SGS-PHARMCM)

PHARMACOLOGY, CELLULAR AND MOLECULAR 718

Please visit the Pharmacology, Cellular and Molecular website.

Degree Programs Offered: Ph.D.

Program Description

By conducting independent research under the mentorship of a faculty advisor, the Graduate Program in Cellular & Molecular Pharmacology prepares students for research- oriented careers in the biomedical sciences. Students who apply to this program are admitted via Molecular Biosciences, a first-year umbrella program that provides a core curriculum, as well as the opportunity to sample laboratories through rotations. Students tailor their training through selection of additional courses from a variety of disciplines.

Pharmacology, Cellular and Molecular 718 (SGS-PHARMCM)

Degree Requirements

Degree Requirements

- MBS first year curriculum (23 credits)
    - Students may use their lab rotation credits towards their formal course credit requirement.
- Principles of Drug Action and Targeting (16:718:680) (3 credits) (Fall semester of even years)
- MBS mini courses or seminars from other related programs may be taken in the second year and beyond to fulfill the course credits requirements.
- Students may fulfill remaining credits with courses from the Cellular and Molecular Pharmacology program or the broader Molecular Biosciences umbrella. Course selections outside this umbrella require the program director's permission.
- Research in Pharmacology is required each semester (16:718:701/702). (By arrangement) (24 credits minimum/40 credits suggested)
- Subsequent year courses required by all programs of the Molecular Biosciences:
    - One of three statistics courses, preferably in the second or third year: (16:115:557 or 16:125:578, or 16:960:501)
    - Graduate Student Research Seminar every semester of every year (16:695:600)
    - Ethical Scientific Conduct refresher for 5th year Ph.D. students (16:115:556)

Qualifying Exams

Advancing to PhD candidacy requires passing a written qualifying exam, as well an an oral qualifying exam (sometimes called the proposition exam). Both must be taken in a timely manner to remain in the Graduate Program.

Qualifying Exam A (written): The written exam tests basic biological knowledge and reasoning through the interpretation of primary literature. It is administered by Molecular Biosciences and given once a year at the end of the first-year core curriculum. In some cases, students may take this exam in the following year.

Qualifying Exam B (Oral): The oral qualifying exam is taken within one year of the written qualifying exam. Exceptions require the approval of the program director. The exam is based on an oral defense of a written proposal of the student's planned thesis work. The examination committee, consisting of four faculty members of the CMP program, is selected by the student and their advisor but does not include the advisor. Ad hoc members from outside the program are permitted with the program director's approval.

The oral exam is based on a student's written proposal (about 10 pages) in the form of a research grant application (Specific Aims, Background/Significance, Preliminary Results, Experimental Design). The proposal must be written entirely by the student, but consultation with the advisor is permitted. While preliminary results are welcome, they are not essential nor the focus of the exam. The committee and the student's advisor must receive the proposal at least one week before the exam.

During an oral defense of the proposal, the committee asks questions related directly or indirectly to the subject matter. Students can expect questions on the logic behind the proposal, the scientific techniques employed, as well as general questions about the practices and principles of biological and pharmacological science.

The student's performance is evaluated on a pass/fail basis. A conditional pass may also be awarded. A pass on the exam admits the student to candidacy for the PhD degree. Two forms documenting the completion of the exam are filed with the School of Graduate Studies Office: a Qualifying Exam B Form and an Annual Research Advisory Committee Meeting Form. Both can be found HERE.

Pharmacology, Cellular and Molecular 718 (SGS-PHARMCM)

Course Descriptions

Course Descriptions

16:718:680 ***Principles of Drug Action and Targeting (3)***
This course provides a comprehensive overview of basic principles in pharmacology, representative drug classes and their targets, clinical drug evaluation, experimental therapeutics and drug development.
This course is required.

16:718:603 ***Genomics in Cancer Therapeutics (3)***
This course focuses on the latest development in personalized cancer therapy and implementation of genomic and precision medicine approaches. A literature-based seminar course combined with patient-oriented bioinformatics and hospital sessions focused on illustrating how cancer patients are diagnosed and treatments are established. The range of topics covered includes tumor heterogeneity, resistance mechanisms in tumors, and targeted therapies against deregulated genomic stability, cancer metabolism and cancer stem cells.

2-Credit Seminar Courses

16:718:605 ***Drug-Target Interactions (Chromatin and Chromosomes) (2)***
A literature-based seminar course focused on the latest developments in discoveries in chromatin and chromosomes with emphasis on pharmaceutical applications.

16:718:581 ***Hormones and Their Receptors (2)***
A literature-based seminar course focused on the latest discoveries in mechanisms of hormone actions and their receptors at both cellular and molecular levels.

16:718:600 ***Cancer Pharmacology (2)***
A literature-based seminar course focused on new molecular targets for anticancer agents.

16:718:575 ***Signal Transduction (2)***
This is a literature-based seminar course focused on key discoveries in the field of signal transduction in immune cells.

16:718:584 ***Molecular Response to Therapeutic DNA Damage (2)***
This is a literature-based seminar course focused on aspects of DNA repair, recombination, and replication as they relate to pharmacological intervention.

16:718:601 ***Genetics in Pharmacology (2)***
This is a literature-based seminar course focused on the intersection of genetics and pharmacology with regard to identification of drug targets, development of drugs, and drug response.

Pharmacology, Cellular and Molecular 718 (SGS-PHARMCM)

Application Requirements

Application Requirements

Admission to the Graduate Program is highly competitive. A bachelor's degree or its equivalent is required for admission. Appropriate undergraduate preparation might include a concentration in biology, biochemistry, cell biology, molecular biology, developmental biology, microbiology, neurobiology, genetics or a related field. Successful applicants have typically had some exposure to laboratory research and are able to articulate why further training in graduate school is desired.

Superior ability needs to be demonstrated by grade-point average (minimum GPA of 3.0) and letters of recommendation. **We no longer require the GRE test.** TOEFL scores are required of students from countries in which English is not the primary language.

Pharmacology, Cellular and Molecular 718 (SGS-PHARMCM)

Admission Deadlines

Admission Deadlines

December 1

Pharmacology, Cellular and Molecular 718 (SGS-PHARMCM)

List of Core Courses

List of Core Courses

Fundamentals of Molecular Biosciences 16:695:538

Experimental Methods in Molecular Biosciences 16:695:539

Mini Courses in Molecular Biosciences 16:695:621-38

Essential Skills I/II 16:695:551-2

Laboratory Rotations 16:695:615-6 Ethical Scientific Conduct 16:115:556

Graduate Student Research Seminar 16:695:600

Physiology and Integrative Biology 761 (SGS-PHYSIB)

PHYSIOLOGY AND INTEGRATIVE BIOLOGY 761

Degree Programs Offered: Ph.D.

Please visit the Physiology and Integrative Biology website.

The Graduate Program in Physiology and Integrative Biology (PIB) offers a Ph.D. degree, with participation from research laboratories within the School of Graduate Studies. This program is designed to provide training at the interface of genomics, cell biology, and organismal physiology. Specific topics include molecular endocrinology, cardiovascular research, cancer biology, membrane structure and signal transduction, host-microbial interaction and the physiological bases of diseases. PhD students will receive a full tuition waiver, a stipend, and health benefits for the duration of their studies. Rutgers University campus housing is available to students.

PIB is part of the joint Molecular Biosciences graduate programs, co-sponsored by the School of Graduate Studies. Students enter PIB by applying to the Graduate Programs in Molecular Biosciences. Direct admissions to PIB can also be considered for students with an advanced background (e.g., students transferring from other universities with advanced courses or an M.S. degree). In the latter case, certain credit hours can be transferred toward the graduate degree.

A Master's degree in Physiology and Integrative Biology is no longer offered.

Degree Requirements

Degree Requirements

Ph.D. Curriculum

A minimum of 72 total credits is required for the Ph.D. This must include a minimum of 32 credits of formal course work and a minimum of 24 credits of research. The Special Topics Seminars and a maximum of 6 credits of Lab Rotations count towards the course work credits. Additional Lab Rotations count towards the total credit requirements, but not as course credits.

All required courses must be passed with a grade of B or better. Required courses in which a grade below B has been received must be repeated in order to achieve a B, unless other remediation is approved by the PIB Program Student Affairs and Academic Standing Committee.

Ordinarily, a minimum overall Grade Point Average of 3.0 must be maintained; however, should a student's GPA fall below 3.0, one additional semester of course work will be permitted to allow improvement. The PIB Academic Standing Committee will evaluate students with GPA's below 3.0 and make recommendations. The entire Doctoral Program must be completed in no more than seven years from the time of entry into the program.

Core Course Requirements

TITLE	COURSE CODE	CREDITS	SEMESTER/YEAR
Essential Skills I	16:695:551	1	Fall 2025, Fall 2024, Fall 2023
Experimental Methods in Molecular Biosciences	16:695:539	2	Fall 2025
Essential Skills II	16:695:552	1	Spring 2026, Spring 2025, Spring 2024
Laboratory Rotations I	16:695:615	3	Fall 2025, Fall 2024, Fall 2023
Ethical Scientific Conduct	16:115:556	1	Spring 2026, Spring 2025, Spring 2024, Spring 2023, Spring 2022, Spring 2021
Fundamentals of Molecular Biosciences	16:695:538	6	Fall 2025
Laboratory Rotations II	16:695:616	3	Spring 2026, Spring 2025, Spring 2024
Progress Reports of Graduate Students in Molecular Biosciences	16:695:600	0	Spring 2026, Fall 2025, Spring 2025, Fall 2024, Spring 2024, Fall 2023

Physiology and Integrative Biology 761 (SGS-PHYSIB)

Course Descriptions

Course Descriptions

16:761:580 ***Molecular Basis of Physiology (3)***
This is a lecture/primary literature discussion course covering the molecular basis of human physiological systems and related methodologies used in modern physiological and medical research. Designed to further extend and supplement areas covered in the companion course Physiological Basis of Disease, this course is subdivided into six parts including: 1) Nerve and Muscle Physiology, 2) Hormones, Signal Transduction, and Regulation of Gene Expression, 3) Sensory Physiology (hearing, taste, vision, smell, pain), 4) Blood cells and Immunity, 5) Cellular and Physiological Homeostasis, and 6) Animals Models to Study Human Physiology and Disease. (Instructor: Joseph Fondell)

16:761:600 ***Physiological Basis of Diseases (3)***
This is a lecture/discussion course that covers systems physiology and relates these concepts to disease. The course is divided into several organ systems starting with an in depth discussion of the normal physiology of each system, that in turn sets the foundation for understanding the pathophysiology of each system. Included are discussions of cardiovascular, pulmonary, renal, gastro-intestinal, bone, and endocrine systems in the context of normal function, as well as the effect and consequences of representative pathophysiological conditions. (Instructor: Joseph Fondell)

16:761:610 ***Biological, Biomedical, and Social Aspects of Aging (3)***
This is an advanced lecture/discussion format course (32 hours over 14 weeks) that covers aging and aging-related disease from a 360-degree angle. Topics range from the history and the economics of aging to theories of aging to neurodegenerative diseases. The course is also aimed at filling a gap, since there is no course dedicated to aging

in the curriculum, despite the relevance of this process to human societies. The course is divided into 5 blocks and included are discussions of the impact of aging on modern societies, physiology of senescence, molecular mechanisms of aging, the aging brain and neurodegeneration.

16:718:581 ***Hormones and Their Receptors (2)***
A literature-based seminar course focused on the latest discoveries in mechanisms of hormone actions and their receptors at both cellular and molecular levels. (Instructor: Fondell)

16:761:513 ***Cardiovascular Physiology (3) (Offered in even-numbered years)***
The cardiovascular system in mammals. Coronary circulation, myocardial oxygen consumption, and cardiac arrhythmias. (Instructor: Merrill)

Physiology and Integrative Biology 761 (SGS-PHYSIB)

Admission Deadlines

Admission Deadlines

For best consideration apply by these dates

APPLICATION TYPE	US APPLICANTS	NON-US APPLICANTS
Ph.D.	December 1	December 1

Music 700 (SGS-MUSIC)

MUSIC 700

See Graduate Programs in Music in the Mason Gross School of the Arts section of this catalog.

Neuroscience 710 (SGS-NEURO)

NEUROSCIENCE 710

Please visit the Neuroscience website.

Degree Programs Offered: Ph.D.

Program Description

The Graduate Program in Neuroscience includes faculty members from several departments representing neuroscience, cell biology, molecular biology, biochemistry, and psychology, psychiatry, genetics, neurology, and animal sciences. The recently formed Brain Health Institute coordinates Neuroscience activities and seminars throughout the university. Areas of specialization include production and analysis of mutant mouse activity; regulation of neural and glial gene expression; developmental neurobiology; autism; gliogenesis; neurogenesis; spinal cord injury; stem cell biology; synaptic plasticity; mechanisms and regulatory controls of learning and memory.

The program selects students on the basis of their academic records, references, and research experience. A student must have an undergraduate cumulative grade-point average of at least B to be considered for admission. Prerequisite courses normally include biology, general and organic chemistry, calculus, and physics. Financial aid is provided to highly qualified students, and typically includes a stipend to cover living expenses and remission of tuition fees. The classes of direct support include fellowships, graduate assistantships provided through research grants held by individual professors, NIH training grants, and teaching assistantships associated with individual teaching units of the program.

Please click here to apply for the Neuroscience program.

Faculty

Victoria Abraira, Ph.D., Harvard

Janet Alder, Ph. D., Columbia

Gary Aston-Jones, Ph.D., California Institute of Technology

Annika Barber, Ph.D., Thomas Jefferson

David Barker, Ph.D., Rutgers

Maureen Barr, Ph. D., Columbia

Nicholas Bello, Ph.D., Pennsylvania

Alison Bernstein, Ph.D., Washington

Kasia Bieszczad, Ph.D., California (Irvine)

Detlev Boison, Ph.D., Koln (Germany)

Christoph Buettner, Ph.D., Munich (Germany)

Li Cai, Ph.D., UMDNJ, Rutgers

Ruifeng Cao

Santiago Cuesta

Brian Daniels, Ph.D., Washington

Gabriella D'Arcangelo, Ph.D., SUNY (Stony Brook)

Robin Davis, Ph.D., Stanford

Emanuel DiCicco-Bloom, M.D., Cornell

Cheryl Dreyfus, Ph.D., Cornell

Monica Driscoll, Ph.D., Harvard

Isaac Edery, Ph.D., McGill (Canada)

Abdelfattah El Ouaamari, Ph.D., Illinois (Urbana)

Bonnie Firestein, Ph.D., California (San Diego)

Martin Grumet, Ph.D., Johns Hopkins

Ronald Hart, Ph.D., Michigan

Avram Holmes, Ph.D.

Rafiq Huda, Ph.D., Northwestern

Kenneth Irvine, Ph.D., Stanford

Morgan James, Newcastle (Australia)

Mi-Hyeon Jang, B.S., Chungbuk; M.S., Ph.D., Kyung Hee

Peng Jiang, Ph.D., China

William Johnson, M.D., Columbia

Eunsung Junn, Korea

Eleanna Kara

Tejbeer Kaur

Yong Kim, Ph.D., Pohang

Yoon-Seong Kim, Ph.D., Weill Cornell Medical

Anna Konova, Ph.D., Stony Brook

Kelvin Kwan, Ph.D., Harvard

John Li, Ph.D., Pennsylvania

Yang Lyu, Ph.D., Sun Yat-sen

M. Chiara Manzini, Ph.D., Columbia

David Margolis, Ph.D., Washington

Bridget Matikainen-Ankney

Michael Matise, Ph.D., Pittsburgh

John McGann, Ph. D., Yale

Randy McKinnon, Ph.D., McMaster

James Millonig, Ph.D., Princeton

Aaron Milstein, Ph.D., California

Kevin Monahan, Ph.D., Harvard

Todd Mowery, Ph.D., Indiana

Todd Mowery

Jennifer Mulle

Judith Neubauer, Ph.D., Rutgers

Natasha O'Brown

Ian Oldenburg, Ph.D., Harvard

Pingyue Pan, Ph.D., Shanghai Jiao Tong

Zhiping Pang, Ph.D., Texas (Southwestern)

Philip Parker, Ph.D., California (San Francisco)

Linden Parkes

Tulsi Patel

Chris Pierce, Ph.D., Indiana

John Pintar, Ph.D., Oregon

Mladen-Roko Rasin, Ph.D., Zagreb

Troy Roepke, Ph.D., California (Davis)

Christopher Rongo, Ph.D., Massachusetts

Mark Rossi, Ph.D., Duke

Benjamin Samuels Harvard

Dipak Sarkar, D.Phil., Oxford; Ph.D., Calcutta

Federico Sesti, Ph.D., Genova

Tracey Shors, Ph.D., California

Gleb Shumyatsky, Ph.D., USSR Academy of Sciences

Noelle Stiles, B.S., California; Ph.D., California Institute of Technology

Smita Thakker-Varia, Ph.D., Kansas

Max Tischfield, Ph.D., Harvard

Elizabeth Torres, Ph.D., California (San Diego)

David Vicario, Ph.D., Rockefeller

William Wadsworth, Ph.D., Missouri (Columbia)

Andrew Westbrook

Justin Yao

Wise Young, Ph.D., Iowa; M.D., Stanford

David Zald, Ph.D., Minnesota

Huaye Zhang, Ph.D., Virginia

Renping Zhou, Ph.D., California (Berkeley)

Neuroscience 710 (SGS-NEURO)

Degree Requirements

Degree Requirements

Ph.D. Curriculum

Credit Requirements and Required Courses

While course requirements vary with the area of specialization, all students must complete a total of 72 combined credits required for the Ph.D. degree. Of the 72 credits, at least 28-course credits (at a minimum B grade average) are required, of which 24 must be at the 500 level or above. Required courses include 8 seminar credits of Advanced Studies in Neuroscience, 1 credit of Ethical Scientific Conduct, 3 credits Neurobiology 555, a Statistics course, one biochemistry-cell biology course, and an Ethics Refresher course. Up to 44 research credits are also required to bring the required total to 72.

Neuroscience 710 (SGS-NEURO)

Course Descriptions

Course Descriptions

16:710:605/606 Advanced Studies (2)
A research literature review or independent reading.
Offered Fall & Spring. 4 semesters (REQUIRED). Pintar.

16:710:555 Neurobiology (3)
Introductory survey emphasizing experimental approaches to the study of invertebrate and vertebrate nervous systems. Molecular, biophysical, and biochemical bases of nerve cell function. Higher-level functions are shown as

emerging from nerve cell properties, anatomical development, and mature connections. Firestein Recommended: Biochemistry, physiology, or animal behavior.
Permission of instructor. Offered every Fall (REQUIRED AND CORE). Huda.

Offered by Neuroscience faculty as electives and count towards Ph.D. degree.

16:710:544 ***Molecular Regulation of Neurogenesis (3)***
Discussion of current literature, exploring concepts and mechanisms regulating the neuronal generation, and specification from undifferentiated precursors in invertebrates and vertebrates examined, including cell lineage, homeotic genes, neurotransmitters, and growth, trophic, and transcription factors.
Prerequisites: Neurobiology, molecular biology of cells. Offered every other year. DiCicco-Bloom.

16:710:517 ***Molecular Neurotransmission (3)***
Synaptic transmission in the brain controls information flow. Dysfunction synaptic functions lead to neuropsychiatric and neurological disorders. This course focuses on current topics on molecular mechanisms underlying the communication through chemical pathways in the mammalian brain; pharmacological and pathological conditions. ***Offered every other year. Pang***

Neuroscience 710 (SGS-NEURO)

List of Core Courses

List of Core Courses

Advanced Studies 16:710:605, 2 credits. (REQUIRED) Neurobiology 16:710:555, 3 credits. (REQUIRED AND CORE) Research (Rotation) 16:710:701, 1-2 credits.

Statistics class, 3 credits. (Required either in the Fall or Spring) Advanced Studies 16:710:606, 2 credits. (REQUIRED) 1

Ethical Scientific Conduct 16:115:556, 1 credit. (REQUIRED) 1 Statistics class, 3 credits. (if one was not taken in the Fall) 1 Research (Rotation) 16:710:702, 1-2 credits.

Ethical Scientific Conduct Refresher 16:115:558 (REQUIRED)

Advanced Studies in Neuroscience 16:710:605,606, 3 credits. (REQUIRED) Computational Elective Courses

Nursing 705 (SGS-NURS)

Nursing 705

See Doctoral (Ph.D.) Programs in the School of Nursing section of the School of Health catalog.

Nutritional Sciences 709 (SGS-NUTRSCI)

NUTRITIONAL SCIENCES 709

Please visit the Nutritional Sciences website.

Degree Offered: M.S., Ph.D.

Directors: Carol Byrd-Bredbenner (Email: bredbenner@sebs.rutgers.edu) and Tracy Anthony (Email: tracy.anthony@rutgers.edu)

The doctoral program in nutritional sciences prepares students for careers conducting original research in nutritional sciences in academic, governmental, healthcare, or industrial settings.

Faculty

Jaclyn Maurer Abbot, Ph.D., Arizona

Brandon Alderman, Ph.D., Arizona

Tracy Anthony, Ph.D., Illinois (Urbana)

Elisa Bandera, Ph.D., SUNY (Buffalo)

Nicholas Bello, Ph.D., Pennsylvania

Paul Breslin, Ph.D., Pennsylvania

Christoph Buettner, Ph.D., Munich (Germany)

Laura Byham-Gray, Ph.D., New York University

Carol Byrd-Bredbenner, Ph.D., Pennsylvania

Sara Campbell, Ph.D., Florida State

George Carman, Ph.D., Massachusetts

Ahmad A. Clunton, Ph.D., Cornell

Wendie Cohick, Ph.D., Cornell

Paul Copeland, Ph.D., Virginia

Cara Cuite, Ph.D., Rutgers

Karen D'Alonzo, Ph.D., Rutgers

Joseph Dixon, Ph.D., Wisconsin (Madison)

Maria Dominguez-Bello, Ph.D., Aberdeen

Shauna Downs, Ph.D., Alberta

Sara Elnakib. Ph.D., Rutgers

Mackenzie Ferrante, Ph.D., Colorado

Ronaldo Ferraris, Ph.D., Hawaii (Manoa)

Nurgul Fitzgerald, Ph.D., Connecticut

Christy Gliniak, Ph.D., Case Western

Grace Guo, Ph.D., Kansas

William Hallman, Ph.D., South Carolina

Daniel Hoffman, Ph.D., Boston

Estela Jacinto, Ph.D., California (San Diego)

Debra Laskin, Ph.D., Virginia

Steven Malin, Ph.D., Massachusetts

Matthew McBride, Ph.D., Harvard

Kenneth McKeever, Ph.D., Arizona

Joshua Miller, Ph.D., Tufts

Pinkin Panchal, M.S., Rutgers

Peggy Policastro, Ph.D., Rutgers

Loredana Quadro, Ph.D., Naples (Italy)

Virginia Quick, Ph.D., Rutgers

Salome Rao, Ph.D., Rutgers

Ilya Raskin, Ph.D., Michigan

Shristi Rawal, Ph.D., Connecticut

Troy Roepke, Ph.D., California (Davis)

Diana Roopchand, Ph.D., McGill

Mark Rossi, Ph.D., Duke

Harini Sampath, Ph.D., Wisconsin (Madison)

Donald Schaffner, Ph.D., Georgia

Ethan Schoolman, Ph.D., Michigan

Ankit Shah, M.D., RWJMS

Sue Shapses, Ph.D., Columbia

Igor Shmarakov, Ph.D., Columbia

Labros Sidossis, Ph.D., Texas

Elizabeth Snyder, Ph.D., Washington

Judith Storch, Ph.D., Columbia

Nanjoo Suh, Ph.D., Illinois (Chicago)

Beverly Tepper, Ph.D., Tufts

Malcolm Watford, D.Phil., Oxford

Ariel Willette, Ph.D. Wisconsin (Madison

Liping Zhao, Ph.D., Nanjing

Nutritional Sciences 709 (SGS-NUTRSCI)

Ph.D. Degree Options and Requirements

Ph.D. Degree Options and Requirements

This degree program has two options: Nutritional Biochemistry & Physiology and Applied & Community Nutrition. Please refer to the graduate handbook. Doctoral candidates are required to take a total of 72 credits: 33 course credits (minimum), 24 research credits (minimum), and 15 additional credits of course and/or research credits.

Nutritional Biochemistry & Physiology Option

For Nutritional Biochemistry & Physiology, students are required to complete *Nutrition: A Biochemical and Physiological Basis* (16:709:552, 4 credits; 16:709:553, 4 credits), *Nutrition Seminar* (16:709:601, 1 credit), *Nutrition Seminar* (16:709:602, 2 credits), *Statistics* (3 credits), *Biochemistry* (6-8 credits), *Principles of Nutrition Research* (16:709:515, 3 credits), *Nutritional Aspects of Disease* (16:709:506, 3 credits), and additional relevant courses (up to at least 33 credits) in consultation with the student's advisor and the Curriculum Committee.

All students must pass a written qualifying exam (usually at the end of their second year of residence in graduate school). This exam covers course work as well as the ability to critically read the literature, interpret experimental data, and design novel experiments. The doctoral thesis involves completion of original research in an area relevant to nutrition, under the guidance of a faculty member. The thesis is presented in a public seminar, defended orally to a committee consisting of members of the Nutritional Sciences Graduate Program, and submitted to the Graduate School prior to the award of the Ph.D. degree. Typical time for completion of all doctoral work is five years.

Applied & Community Nutrition Option

For Applied & Community Nutrition, students are required to complete *Nutrition: A Biochemical and Physiological Basis* (16:709:552, 4 credits; 16:709:553, 4 credits), *Nutrition Seminar* (16:709:601, 1 credit), *Nutrition Seminar* (16:709:602, 2 credits), *Community Nutrition* (16:709:521, 3 credits), *Health Promotion and Disease Prevention II* (16:709:526, 3 credits), *Advanced Topics in Nutritional Sciences* (16:709:620, 2-3 credits), *Statistics* through regression (6 credits), and two of the following three courses: *Health Promotion and*

Disease Prevention I (16:709:524, 3 credits), *Principles of Nutrition Research* (16:709:515, 3 credits), or *Nutrition Epidemiology* (16:709:530, 3 credits), and additional relevant courses (up to at least 33 credits) in consultation with the student's advisor and the Curriculum Committee.

All students must pass a written qualifying exam (usually at the end of their second year of residence in graduate school). This exam covers course work as well as the ability to critically read the literature, interpret experimental data, and design novel experiments. The doctoral thesis involves completion of original research in an area relevant to nutrition, under the guidance of a faculty member. The thesis is presented in a public seminar, defended orally to a committee consisting of members of the Nutritional Sciences Graduate Program, and submitted to the Graduate School prior to the award of the Ph.D. degree. Typical time for completion of all doctoral work is five years.

Nutritional Sciences 709 (SGS-NUTRSCI)

M.S. Degree Options and Requirements

M.S. Degree Options and Requirements

Degree Options

This degree program has three options: Nutritional Biochemistry & Physiology, Applied & Community Nutrition, and Dietetics.

Nutritional Biochemistry & Physiology Option

This option focuses on biochemical, physiological, and molecular aspects of nutrition. It mainly serves students who intend to obtain a Ph.D. in nutritional sciences or related fields, and also those seeking additional basic knowledge for jobs in research or teaching.

Applied & Community Nutrition Option

This option provides advanced training for careers in nutrition education or community nutrition. In addition to gaining basic knowledge of nutritional biochemistry, emphasis is placed on clinical and public health aspects of nutrition.

Dietetics Option

This option is open to students who are also seeking the Registered Dietitian Nutrition (RDN) Credential.

Degree Requirements

All MS students must complete a minimum of 30 credits; please refer to the graduate handbook. All students conduct original research under the direction of a member of the graduate program and defend a master's thesis or write a critical essay. A total of 30 credits is required for the degree. Typical time for completion of all M.S. requirements is two years.

Nutritional Biochemistry & Physiology Option

All students must complete *Nutrition: A Biochemical and Physiological Basis* (16:709:552, 4 credits; 16:709:553, 4 credits) and *Statistics* (3 credits), courses in biochemistry (6 to 8 credits), Nutrition Seminar (16:709:601), and additional courses (for a total of at least 24 course credits) in cell biology, molecular biology, physiology, immunology, etc., and research credits sufficient to meet the 30 credit minimum for the M.S. degree.

Applied & Community Nutrition Option

All students must complete *Nutrition: A Biochemical and Physiological Basis* (16:709:552, 4 credits; 16:709:553, 4 credits) and *Statistics* (3 credits), Health Promotion in Nutrition & Dietetics 1 (16:709:524), Community Nutrition (16:709:521, 3 credits) and additional courses in clinical nutrition, nutrition education, community nutrition, epidemiology, etc., are taken (for a total of at least 24 course credits), and research credits sufficient to meet the 30 credit minimum for the M.S. degree.

Dietetics Option

All students must complete Health Promotion in Nutrition & Dietetics 1 (16:709:524, 3 credits), Health Promotion in Nutrition & Dietetics 2 (16:709:526, 3 credits), Applied Nutrition Research (16:709:503, 3 credits), Medical Nutrition Therapy (16:709:508, 3 credits), Advanced Topics in Disease Prevention (16:709:510, 3 credits), Dietetics Supervised Practice (16:709:618, 7 to 12 credits), and additional courses in nutrition, are taken for a total of at least 24 course credits), and research credits sufficient to meet the 30 credit minimum for the M.S. degree.

Nutritional Sciences 709 (SGS-NUTRSCI)

Course Descriptions

Course Descriptions

16:709:503 ***Introduction to Applied Nutrition Research (3)***
Investigation, discussion, and evaluation of current research in nutrition education.
Pre- or corequisites: 16:709:552;553, and statistics.

16:709:506 ***Nutritional Aspects of Disease (3)***
Advanced study of pathophysiological aspects of disease states and the relation to nutrition.
Prerequisites: 16:709:552,553.

16:709:508 ***Medical Nutrition Therapy (3)***
Application of pathophysiology of diseases states addressing prevention and treatment of patients at risk of nutritional complications.
Prerequisites: Admission to the Rutgers Dietetic Internship or by Permission of the Instructor.

16:709:510 ***Advanced Topics in Disease Prevention (3)***
Advanced topics in disease prevention and treatment including those related to professional practice, development, and leadership. Specific attention will be directed to nutrition needs of patients to provide students with current knowledge and evidence-based application in dietary prevention, treatment, and management of patients.
Prerequisites: Admission to the Rutgers Dietetic Internship or by Permission of the Instructor.

16:709:515 ***Principles of Nutrition Research (3)***
Advanced topics in metabolic regulation, including principles of experimental design as applied to nutrition research. Emphasis on the development of research proposals.
Prerequisites: 16:709:552,553.

16:709:521 ***Community Nutrition (3)***
Study of nutritional aspects of public health service and community agencies and of programs designed to improve nutritional status of various population groups.
Prerequisites: 11:709:400,401 or equivalent.

16:709:524 ***Health Promotion in Nutrition & Dietetics (3)***
Evidence-based practice with emphasis on accurate interpretation of scientific information and translation into actionable nutrition behaviors.

16:709:526 ***Health Promotion in Nutrition & Dietetics II (3)***
Advanced skills in evidence-based nutrition practice with emphasis on communicating with professional audiences using an array of communication modes.

16:709:530 ***Nutrition Epidemiology (3)***
Introduction to theoretical and practical aspects of nutritional epidemiology, the study of how diseases related to diet change within and throughout societies and populations.
Pre- or Co-requisites: 16:709:552,553.

16:709:552 ***Nutrition: A Biochemical and Physiological Basis (4)***
Digestion, function, and metabolism of minerals and vitamins. Regulatory mechanisms, developmental changes, and species differences that influence the requirements and metabolism of nutrients. Effect of nutrient supply on metabolism at the molecular, cellular, and systemic levels, including special metabolic needs during growth, reproduction, stress, and senescence in animals and man. Integration of information about energy metabolism and body composition. Nutritional aspects of obesity and starvation.
Prerequisites: 11:115:301 or 01:694:301 or 11:115:403,404 or 01:694:407,408 or equivalents.

16:709:553 ***Nutrition: A Biochemical and Physiological Basis (4)***
Digestion, function, and metabolism of proteins and amino acids, carbohydrates, and lipids. Regulatory mechanisms, developmental changes, and species differences that influence the requirements and metabolism of nutrients. Effect of nutrient supply on metabolism at the molecular, cellular, and systemic levels, including special metabolic needs during growth, reproduction, stress, and senescence in animals and man.
Prerequisites: 11:115:301 or 01:694:301 or 11:115:403,404 or 01:694:407,408 or equivalents.

16:709:601 ***Nutritional Sciences Seminar (1)***
Seminar presentations on current nutrition research topics with emphasis on selection, preparation, and presentation.

16:709:602 ***Nutritional Sciences Seminar (2)***
Seminar presentations on current nutrition research topics with emphasis on selection, preparation, and presentation.

16:709:603, 604 ***Advanced Studies in Nutrition (BA, BA)***
Intensive seminar on selected nutrition topics and issues.

16:709:618 ***Dietetics Supervised Practice (BA, BA)***
Used by students in the dietetics option for required supervised practice.
Prerequisites: Permission of the instructor.

16:709:620 ***Advanced Topics in Nutritional Sciences (1)***
Informal, critical discussion and directed study in current areas of nutrition research.
Prerequisites: 16:709:552,553.

16:709:621 ***Advanced Topics: Metabolic Regulation (1)***
Informal, critical discussion and directed study of current literature and concepts in carbohydrate and lipid nutrition.
Prerequisites: 16:709:552,553.

16:709:622 ***Advanced Topics in Mineral Nutrition (1)***
Informal, critical discussion and directed study of current literature and concepts in mineral nutrition.
Prerequisites: 16:709:552,553.

16:709:623 ***Advanced Topics: Molecular Nutrition (1)***
Informal, critical discussion and directed study of current literature and concepts in the nutritional control of gene expression.
Prerequisites: 16:709:552,553.

16:709:625 ***Recent Advances in Nutritional Sciences (1)***
Informal, critical discussion and directed study in nutritional sciences, ranging from specialized research approaches and techniques to aspects of national and international nutrition policy.
Prerequisites: 16:709:552 553 or permission of instructor.

16:709:644 ***Research Supervised Practice (BA, BA)***
Used by students in the dietetics option for research work.
Prerequisites: Permission of the instructor

16:709:687,688 ***Independent Studies in Nutritional Sciences (3,3)***
Supervised individual study of selected topics of interest with extensive reading and/or independent research project.

16:709:699 ***Nonthesis Study (BA,BA)***
Used by students for nonthesis research work.
Prerequisites: Permission of the instructor.

16:709:701,702 ***Research in Nutrition (BA, BA)***
Used by doctoral students for their Ph.D. dissertation research work.

Ph.D. Admissions Requirements

Admissions Requirements for the Ph.D. in Nutritional Sciences

A bachelor's degree from an accredited college showing potential for achievement in scholarly activities. The following are prerequisites for admission:

- General chemistry with lab (1 year recommended)
- 1 year organic chemistry; or 1 semester organic chemistry plus 1 semester of biochemistry
- At least 12 additional credits in advanced (300-400 level) sciences (biology, chemistry, physics, calculus, nutrition, or food science)
- For all international students, regardless of whether prior education was completed at an English-speaking higher education institution: TOEFL a minimum of 550 (paper-based test); a minimum of 213 (computer-based test); a minimum of 110 (internet-based test; with no individual test score falling below these cut offs: writing 24, speaking 25, reading 24, listening 22); IELTS Academic test minimum score of bandwidth 7.5 (minimum of 7.0 per component); or Duolingo minimum score of 130. Admitted international students also must complete additional testing in English at Rutgers and may be required to take remedial English coursework before being considered for funding as teaching assistants.
- For all international students completing university coursework at an international (non-U.S.) institution, assessment of transcripts for U.S. equivalency by World Education Service or similar organization.
- GPA: B average or above
- Three letters of recommendation from former university professors and/or research supervisors/advisors who can describe the applicant's preparation for graduate study in nutritional sciences and likelihood of success.
- A personal statement describing the applicant's academic achievements, research experience, leadership skills, commitment to graduate school, examples illustrating resilience and adaptability during education, and how the applicant has contributed to or supported intellectual and/or cultural diversity in higher education and science. Please also identify at least three faculty whose research interests match the applicant's plans for graduate training.
- GRE is **not** required.
- Students do **not** need to identify a research mentor/supervisor before applying.

Nutritional Sciences 709 (SGS-NUTRSCI)

M.S. Admissions Requirements

Admission Requirements for M.S. in Nutritional Sciences

Nutritional Biochemistry & Physiology and Applied & Community Nutrition Options

A bachelor's degree from an accredited college showing potential for achievement in scholarly activities. The following are prerequisites for admission:

- General chemistry with lab (1 year recommended)
- 1 year organic chemistry; or 1 semester organic chemistry plus 1 semester of biochemistry
- At least 12 additional credits in advanced (300-400 level) sciences (biology, chemistry, physics, calculus, nutrition, or food science)
- For all international students, regardless of whether prior education was completed at an English-speaking higher education institution: TOEFL a minimum of 550 (paper-based test); a minimum of 213 (computer-based test); a minimum of 110 (internet-based test; with no individual test score falling below these cut

offs: writing 24, speaking 25, reading 24, listening 22); IELTS Academic test minimum score of bandwidth 7.5 (minimum of 7.0 per component); or Duolingo minimum score of 130. Admitted international students also must complete additional testing in English at Rutgers and may be required to take remedial English coursework before being considered for funding as teaching assistants.

- For all international students completing university coursework at an international (non-U.S.) institution, assessment of transcripts for U.S. equivalency by World Education Service (wes.org) or similar organization.
- GPA: B average or above
- Three letters of recommendation from former university professors and/or research supervisors/advisors who can describe the applicant's preparation for graduate study in nutritional sciences and likelihood of success.
- A personal statement describing the applicant's academic achievements, research experience, leadership skills, commitment to graduate school, examples illustrating resilience and adaptability during education, and how the applicant has contributed to or supported intellectual and/or cultural diversity in higher education and science. Please also identify at least three faculty whose research interests match the applicant's plans for graduate training.
- GRE is **not** required.
- Students do **not** need to identify a research mentor/supervisor before applying.

Dietetics Option

- Bachelor's degree or higher from U.S regionally accredited college or university.
- DPD/FDE Verification Statement: If a Declaration of Intent to complete an ACEND accredited DPD or FDE program is provided during the application, an official copy of the verification statement will be required prior to final admission.
- Academic Transcripts and Test Scores
- GPA: B average or above, official academic transcripts with conferral of undergraduate and/or graduate degrees.
- For all international students, regardless of whether prior education was completed at an English-speaking higher education institution: TOEFL a minimum of 550 (paper-based test); a minimum of 213 (computer-based test); a minimum of 110 (internet-based test; with no individual test score falling below these cut offs: writing 24, speaking 25, reading 24, listening 22); IELTS Academic test minimum score of bandwidth 7.5 (minimum of 7.0 per component); or Duolingo minimum score of 130.
- Three Letters of Recommendation (two academic and one professional)
- Personal Statement (1000 words or less) addressing the following points:

· Describe what has led the applicant to have an interest in a dietetics career.

· Discuss volunteer, work, or research experiences that have prepared the applicant for a supervised practice program.

· Emphasize competencies and fit for the DI program, highlighting leadership abilities, teamwork, problem-solving, and critical thinking skills.

· Describe professional goals in the field of nutrition and dietetics.

· Describe the qualities that make the applicant a good fit for the Rutgers - New Brunswick M.S./D.I. program leading to the registered dietitian nutritionist credential

· Relevant Experience includes work, volunteer experience and honors and certifications as it relates to nutrition and dietetics.

- Resume or Curriculum Vita
- Interview in-person or via video conference
- Please visit the Dietetic Internship website.

Nutritional Sciences 709 (SGS-NUTRSCI)

Admissions Deadlines

Admissions Deadlines

Prospective students may apply for admission at any time. Scholarships, fellowships, and assistantships are highly competitive.

For best consideration apply by these dates:

Doctoral students are advised to apply by January 1 if seeking financial assistance and no later than February 15 for fall admission.

M.S. students in the biochemistry/physiology or community/applied options are advised to apply no later than February 15.

Applications submitted at dates beyond February 15 will be considered at the discretion of the program and may be deferred to the following year.

M.S. students in dietetics should please visit the Dietetic Internship website for admissions dates.

Oceanography 712 (SGS-OCEAN)

OCEANOGRAPHY 712

Please visit the Oceanography website.

Degree Programs Offered : Ph.D., M.S. with Thesis, M.S., Operational Oceanography, M.S. without Thesis

Contact Information
Email: gpo@marine.rutgers.edu
Phone: 848-932-6555

Program Description

The Graduate Program in Oceanography (GPO) is centered in the Department of Marine and Coastal Sciences, which serves as a focus of interdisciplinary studies and research in the areas of **physical, biological, chemical** and **geologica**l oceanography, and **operational** oceanography. A broad range of research opportunities are available, including: studies in the coastal ocean using advanced underwater instrumentation; remote sensing and ocean

modeling; open ocean and shell fish research; advanced underwater optics and fish behavior; biodiversity and marine molecular biology; long term changes in the Antarctic Ocean; paleoceanography and chemical oceanography; fjords dynamics; coastal geomorphology; biological and geological processes at deep-sea hydrothermal vents; organism-sediment interactions; cycling of organic and inorganic materials in the ocean; watershed ecosystems.

Degree Options

Candidates with a baccalaureate degree may apply for either the Master of Science or Doctor of Philosophy degree program. Detailed requirements for both degrees, and for disciplinary options, are available from the Graduate Director, or visiting the Degree Requirements page on the Rutgers Marine and Coastal Sciences website.

Perspective students interested in the Master in Operational Oceanography can find more information about the program here: Master of Operational Oceanography.

Faculty

Michael Acquafredda, Ph.D., Rutgers

Karen Bemis, Ph. D., Rutgers

Kay Bidle, Ph.D., California (San Diego) (Scripps Institution of Oceanography)

Juan Bonachela, Ph.D., Granada (Spain)

Benedict Borer, Ph.D., ETH Zürich (Switzerland)

Anthony Broccoli, Ph.D., Rutgers

Kaixuan “Ryan” Bu, Ph.D., Mississippi

Dave Bushek, Ph D., Rutgers

Bob Chant, Ph.D., Stony Brook (SUNY)

Enrique Curchitser, Ph.D., Rutgers

Paul Falkowski, Ph.D., British Columbia (Canada)

Heidi Fuchs, Ph.D., Massachusetts Institute of Technology (MIT) & Woods Hole Oceanographic Institute (WHOI) Joint Program

Scott Glenn, Sc.D., Massachusetts Institute of Technology (MIT) & Woods Hole Oceanographic Institute (WHOI) Joint Program

Max Gorbunov, Ph.D., Moscow State (Russia)

Joseph Gradone, Ph.D., Rutgers

Thomas “Motz” Grothues, Ph.D., Stony Brook (SUNY)

Ximing Guo, Ph.D., Washington (Seattle)

Lee Kerkhof, Ph.D., California (San Diego) (Scripps Institution of Oceanography)

Josh Kohut, Ph.D., Rutgers

Robert Kopp, Ph.D. California Institute of Technology (Caltech)

Adam Kustka, Ph.D., Stony Brook (SUNY)

Julia Levin, Ph.D., Columbia

Alexander Lopez, Ph.D., Rutgers

Richard “Rich” Lutz, Ph.D., Maine

Travis Miles, Ph.D., Rutgers

Kenneth Miller, Ph.D., Massachusetts Institute of Technology (MIT) & Woods Hole Oceanographic Institute (WHOI) Joint Program

Michael R. Muller, Ph.D., Brown

Daphne Munroe, Ph.D., British Columbia (Canada)

Luis Fernando Pareja Roman, Ph.D., Rutgers

Fiorella Prada, Ph.D., Bologna (Italy)

John Reinfelder, Ph.D., Stony Brook (SUNY)

Alan Robock, Ph.D., Massachusetts Institute of Technology (MIT)

Yair Rosenthal, Ph.D., Massachusetts Institute of Technology (MIT) & Woods Hole Oceanographic Institute (WHOI) Joint Program

Grace Saba, Ph.D., College of William & Mary

Danielle “Dani” Santiago Ramos, Ph.D., Princeton

Oscar Schofield, Ph.D., California (Santa Barbara)

Corday Selden, Ph.D., Old Dominion

Silke Severmann, Ph.D., School of Ocean & Earth Science, Southampton Oceanography Centre (UK)

Rob Sherrell, Ph.D., Massachusetts Institute of Technology (MIT) & Woods Hole Oceanographic Institute (WHOI) Joint Program

Liz Sikes, Ph. D., Massachusetts Institute of Technology (MIT) & Woods Hole Oceanographic Institute (WHOI) Joint Program

Kim Thamatrakoln, Ph.D., California (San Diego) (Scripps Institution of Oceanography)

Costantino Vetriani, Ph.D., Rome Tor Vergata (Italy)

John Wiedenmann, Ph.D., California (Santa Cruz)

John Wilkin, Ph.D., Massachusetts Institute of Technology (MIT) & Woods Hole Oceanographic Institute (WHOI) Joint Program

James Wright, Ph.D., Columbia

Javier Zavala Garay, Ph.D., Colorado (Boulder)

Oceanography 712 (SGS-OCEAN)

Learning Goals

Ph.D. Learning Goals

The Ph.D. degree in the Graduate Program in Oceanography is intended to train students at an advanced level in interdisciplinary science and technology related to oceanographic, climatic, littoral, and coastal marine processes, so as to prepare them to assume careers in research and applied science across a broad, diverse spectrum of associated fields.

Learning Goal 1 for Students:
Attain marked ability, scholarship and research skills in interdisciplinary marine-related learning

Assessment of student achievement of Goal 1:

- Grades in graduate courses
- A Ph.D. qualifying examination assessing interdisciplinary knowledge and reasoning
- Mentoring by a student's individual advisor and thesis committee
- Self-reported student learning outcomes in an annual report to a GPO scholastic review committee
- Post-graduate placement in positions and careers that require abilities, skills and scholarship broadly related to the field and associate disciplines.

Roles of the Graduate Program in Oceanography and the University in helping students achieve Goal 1:

- Evaluate teaching effectiveness of instructors in graduate courses
- Periodic review of curricular offerings and assessment tools
    - Through annual meetings of the GPO faculty
    - Through consultation with faculty and the Directors of related graduate programs
    - Through consultation between the GPO Director and the Oceanography Graduate Students Association
- Monitoring of timely progress toward graduation via an annual student review process
- Ensuring equality and transparency in access to financial support through university supported Graduate and Teaching Assistantships

Learning Goal 2 for Students:
Engage in and conduct original research

Assessment of graduate student achievement of Goal 2:

- Preparation of and defense of Ph.D. dissertation proposal
- Assessment of the Ph.D. dissertation:
    - Public defense of dissertation
    - Critical reading of dissertation by a committee of GPO members and a committee member from outside of the GPO
    - Publication of articles based on the dissertation in peer-reviewed journals
- Achievement of students as evidenced by selection for conference presentations, attainment of individual grants or fellowships, awards from professional societies, peer-reviewed journal publications, and post-graduate career placement.

Roles of the Graduate Program in Oceanography in helping graduate students to achieve Goal 2:

- Provide early introduction to research opportunities
- Provide opportunities to present research and receive feedback
- Maintain adequate funding through the research phase
- Provide comprehensive advising and assist in identifying mentors
- Encourage grant support of graduate student travel to appropriate conferences, special educational opportunities, and field work
- Establish standards for membership and outside members of student committees

Learning Goal 3 for Students:
Prepare students to become professionals in their discipline

Assessment of graduate student achievement of Goal 3:

- Review evidence of papers presented, publications and professional networking
- Aggregate evaluations of teaching effectiveness of graduate student instructors
- Collection of career placement data
- Encourage enrollment in courses related to scientific writing, college instruction, and science communication
- Host and promote professional development programs in fellowship proposal preparation, and how to write a scientific paper
- Facilitate opportunities for students to participate in oceanographic cruises, field work, and international summer schools
- Acquaint students with non-academic career opportunities.

Oceanography 712 (SGS-OCEAN)

Degree Requirements

Degree Requirements for Doctor of Philosophy Degree

Each student must complete at least 30 credits of course work with a cumulative GPA of at least 3.0, and 42 credits of research culminating in a written dissertation. No more than 12 credits can be selected from undergraduate courses at the 300 or 400 level, and only 6 of those 12 can be at the 300 level. Only one course with a grade of "C" will be counted toward degree requirements.

Up to 24 credits of course work taken at other institutions can be transferred after review by the Scholastic Review Committee with the approval of the Director of the GPO. Request for credit transfer must be made using the forms obtained from the Graduate School. Approval will be granted only for courses related to the student's proposed direction of study for the Ph.D. and only for courses equivalent to 500 or higher level courses.

A minimum of 9 credits must be earned by taking **Physical Oceanography [16:712:501]** and **two** of the other core courses of the GPO:

- **16:712:540 Chemical Oceanography**
- **16:712:522 Biological Oceanography**
- **16:460:541 Marine Geology**

or by transferring credit from equivalent courses taken at other institutions. These core requirements should be completed within the first two academic years.

Each student must be in residence at Rutgers University for a minimum of one academic year (i.e., two consecutive semesters exclusive of summer sessions) following successful completion of the Qualifying Examination (see below). Exceptions can be made by petition of the student's Chair to the Scholastic Review Committee.

Degree Requirements for Master of Science Degree *with* Thesis

A Master's student will have an advisor upon entry into the program. This advisor will also be the student's thesis committee chair unless the student requests a change of advisor before the end of his/her first academic year.

In consultation with his/her committee chair, the student will form his/her thesis committee at the start of his/her second academic year. The thesis committee will have at least three members (including the chair) and at least two of the members (including the chair) will be members of the GPO faculty. One committee member may be appointed from outside of the GPO. The membership of the thesis committee must be approved by the director of the GPO and reported to the GPO faculty. Any subsequent changes must be approved by the Director of the GPO.

Each student should prepare a program of study in consultation with his/her committee chair. The program of study will require the program's core requirements and other courses pertinent to the student's research area. The student's thesis committee may require remedial courses, even if such courses must be taken without degree credit.

Course Requirements

The minimum requirement for completion of the M.S. with thesis is 24 credits of course work and 6 credits of research. The minimally acceptable GPA is 3.0. No more than 12 credits can be selected from undergraduate courses at the 300 or 400 level, and only 6 of those 12 can be at the 300 level. Only one course with a grade of "C" will be counted toward degree requirements.

A minimum of 6 credits must be earned by taking **Physical Oceanography [16:712:501]** and additional one course of the **two** other core courses of the GPO:

- **16:712:540 Chemical Oceanography**
- **16:712:522 Biological Oceanography**
- **16:460:541 Marine Geology**

or by transferring credit from equivalent courses taken at other institutions. These core requirements should be completed within the first two academic years. These core requirements should be completed within the first academic year. During the second year the student will concentrate on his/her thesis work while taking related courses.

The M.S. student should submit to his/her thesis committee a progress report at the termination of each academic year following the formation of the thesis committee. The purpose of this progress report is to summarize the student's course of study and thesis research plans and progress.

All requirements for the M.S. degree must be completed within three consecutive calendar years. Any extension must be through written petition and permission by the GPO Director after review by the Scholastic Review Committee.

M.S. Thesis

The thesis will be written in accordance with the guidelines and requirements of the Graduate School and will ordinarily follow the style of a manuscript submitted for publication in a scientific journal. A draft of the thesis must be submitted to committee members at least three weeks before the final thesis examination. Committee members will communicate to the students their comments on the dissertation within two weeks of receiving the draft. Three final copies of the thesis are required. The original and one copy, approved by the thesis committee, are filed with the Graduate School after the oral thesis defense. One copy is filed with the student's thesis advisor.

Final Examination

Each M.S. student must pass a final examination at least three weeks prior to commencement. The examination will be in the form of an open oral thesis presentation and defense followed by a closed oral examination administered by the student's thesis committee. Material covered in the examination may include the content of required program courses as well as the student's specific research subject. A student will pass upon approval of all members of his/her committee or upon approval of all but one member.

Continuation to a Ph.D. Program

A student who completes a Master of Science Degree with a thesis may elect to continue in the Ph.D. program. To expedite the process, the student is encouraged to convey in writing to the GPO Director and his/her M.S. thesis committee his/her desire to continue on for the Ph.D., before the student's final examination. After the final examination, the thesis committee will recommend to the Scholastic Review Committee whether or not the student should be encouraged to continue. The Scholastic Review Committee will review the recommendation and advise the GPO Director, who will decide if permission to continue will be granted.

Degree Requirements for the Operational Master Degree in Oceanography

This track offers an accelerated 12-month degree program for students interested in marine-related employment. The program's 12-month structure starts in early summer each year with a month long intensive summer course that introduces boat safety, Slocum gliders, HF radar, electronics, and python coding to the students. Summer also begins thesis research. The fall semester consists of five courses (including ocean modeling, GIS, physical oceanography, and others). The spring semester is a lighter course load that builds on the earlier courses, allowing for much of the focus to be on finalizing research. The degree program culminates in a May thesis defense.

Applicants are encouraged to have at least one semester of calculus and one semester of physics by the start of the program.

Students complete 24 credits (8 courses) and 6 research credits. New courses in this track include:

- **16:712:509 Integrated Ocean Observing – Software Boot Camp**
- **16:712:505 & 16:712:506 Integrated Ocean Observing 1 & 2**
- **16:712:507 & 16:712:508 Field Laboratory Methods 1 & 2**
- **16:712:510 Operational Ocean Modeling/Visualization**

Degree Requirements for Master of Science Degree *without* a Thesis

No student may elect this option upon admission into the program. It is reserved for Ph.D. candidates who complete a minimum of 24 course and 6 research credits with the required minimum GPA of 3.0, who have contributed to a unit of original research, e.g. as a co-author on a journal publication, and who show Master's level competency during the qualifying examination, but do not pass to candidacy for the Ph.D.

The M.S. degree without a thesis is a terminal degree that will be awarded only under special circumstances and with the approval of the Scholastic Review Committee.

Oceanography 712 (SGS-OCEAN)

Course Descriptions

Course Descriptions

16:712:500 Coastal Climate Resilience (3)
This course will focus on thinking systematically and creatively about the complexities surrounding climate change along the coast. We will work to integrate many different perspectives on risk and resilience. To do so, some classes will center on a discussion led by Rutgers faculty or staff or by an outside guest. Additionally, some classes will focus on learning more about each other's research areas. In addition, we will explore transdisciplinary science and leadership skills for students who desire an understanding of what it means to make whole-system, transdisciplinary research successful.

16:712:501 *Physical Oceanography (3)*
Physical properties and basic equations for describing waves, tides, currents, and the large-scale wind-driven and thermohaline circulation. Ekman, geostrophic, and inertial flows. Gulf Stream; air-sea interactions; El Niño.
Prerequisites: 1 year Calculus & Physics.

16:712:503 ***Coastal Ocean Dynamics (3)***
Observation basis and theoretical foundation of coastal ocean dynamics; tides; rotation; Kelvin and vorticity waves; fronts and plumes; upwelling; estuaries and buoyancy forcing; effects of boundaries and topography; and biogeochemical implications.
Prerequisites: 16:712:501.

16:712:505 ***Integrated Ocean Observing 1 (3)***
The course exposes students to a wide range of operational data streams anchoring ocean forecasting with hands on training using Eulerian tools and time series approaches.

16:712:506 ***Integrated Ocean Observing 2 (3)***
The course exposes students to a wide range of operational data streams anchoring ocean forecasting with hands on training using Lagrangian tools and time series approaches.

16:712:507 ***Field Laboratory Methods 1 (3)***
This field course provides hands-on training in the field. The focus will be on providing a range of practical skills for the remote sensing and fixed point ocean data systems.

16:712:508 ***Field Laboratory Methods 2 (3)***
This field course provides hands-on training in the field. The focus will be on providing a range of practical skills for using mobile autonomous systems.

16:712:509 ***Integrated Ocean Observing-Software Bootcamp (3)***
The aim of the course is to introduce some widely used software tools and teach basic coding practices. The goal is to help students jump start research by acquiring the skills to work efficiently with their data. Topics to be covered include: Jupyter notebooks/lab, the Unix shell: interacting with your computer programmatically and reproducibly, Python programming (including common geoscience libraries: numpy, matplotlib, pandas, xarray, cartopy …), version control (git), accessing public earth science datasets. The course will assume no prior coding experience and is aimed at beginners. The course will aim to build a solid programming foundation to accelerate your data analysis. The course will culminate in a project of each student's choosing. Ideally this will be a task that directly builds on/ complements your research.

16:712:510 ***Operational Ocean Modeling/Visualization 1 (3)***
Course provides an overview of the major modeling and numerical tools with a focus on using operational modeling systems, running the models, and using model outputs as a synthesis tool.

16:712:514 ***Inductively Couples Plasma Spectroscopy Principles & Applications (3)***

The course covers the fundamental principles and applications of inductively coupled plasma-mass spectrometry and spectroscopy. The course will prepare the students with the necessary analytical knowledge for future work involving trace element and isotope analysis.
Prerequisites: 01:160:134 Intro to Chemistry.

16:712:520 ***Biological Oceanography Water Column Ecosystems & Processes (3)***
The ocean is the majority of Earth and the largest biome on the planet. Processes that occur in the water column are highly dynamic and central to regulating the planet's biogeochemistry which influences how much oxygen we breathe, how many fish exist, and how much oil is available to human's to extract. This course will cover the

processes that regulate the biology of the plankton and fish, which drives the community ecology for ocean ecosystems. This course covers ecological themes such as the acquisition and transformation of energy and materials, population regulation, competition/predation dynamics, population connectivity and marine food webs. The course will also highlight approaches and technologies used to make measurements in the ocean.

16:712:522 ***Biological Oceanography (3)***
Interactions among biological, physical, and chemical components of the marine environment, including primary production and secondary production, biogeochemical cycles, food web interactions, and ecosystem analysis of selected marine ecosystems. Habitats considered include the open ocean, coastal waters, kelp beds, coral reefs, estuaries, the deep sea, and hydrothermal vent environments.
Prerequisites: 1 year Biology.

16:712:525 ***Molecular Microbial Oceanography (3)***
The application of molecular tools to study biological processes in the oceans with emphasis on phylogenetics, genomics, population genetics, phylogeography, and molecular ecology.
Prerequisites: SP# required.

16:712:540 ***Chemical Oceanography (3)***
Chemical description of the ocean and its major chemical cycles; salinity and the elements of seawater; nutrients; the carbonate system; marine organic matter; radioisotopes; hydrothermal processes and ocean evolution.
Prerequisites: 1 year Chemistry.

16:712:544 ***Coastal Biogeochemical Cycles in a Changing World (3)***
The course will use coastal systems to explore important concepts in marine chemistry in the coastal zone and nearshore sediments. It will investigate how the disciplines of chemistry, biology and geology are used to understand marine processes in the coastal zone. These high productivity regions of intense biogeochemical cycling are increasingly challenged by anthropogenic changes including: Sea level rise, ocean acidification, and eutrophication. We will study 4 coastal environments from the poles to the tropics while building skills in analysis software.
Prerequisites: 1 year Chemistry.

16:712:545 ***Dynamics of Waves, Currents, and Sediment Transport on the Continental Shelf (3)***
Equations of motion; linear theory for surface waves; wave boundary layers; current Ekman layers; coastal current circulation patterns; sediment transport in steady flow, oscillatory flow, and combined waves and currents.
Prerequisites: 16:712:501.

16:712:552 ***Remote Sensing of the Ocean and Atmosphere (3)***
Introduction to physical principles of remote sensing; past, present, and future instruments on satellites, aircraft, the surface, and under the ocean; applications in oceanography and atmospheric sciences.
Prerequisites: 1 year Physics.

16:712:560 ***History of the Earth System (3)***
Introduction to major processes that have shaped Earth's environment, including climatic processes on geological time scales, the evolution of organisms, the cycling of elements, and the feedback between these processes.
Prerequisites: Intro Chemistry, Biology, and Physics or SP# required.

16:712:561 ***Professional Science Writing and Presentation (3)***
Presenting your science at international meetings. Effective design of data and conceptual figures, and tables that are fit for different purposes. Writing thesis or fellowship proposals and manuscripts. Understanding the peer review process. Job applications. Science communication to the public.

16:712:590 ***Reshaping our Blue Marble Home: Climate Change & the Ocean (3)***
The Polar Regions are a central to the Earth system, playing an outsized role in regulating the planet's climate, chemistry, and ecosystems. The Polar Regions are changing rapidly in response to global warming, with far-reaching impacts on sea level rise, carbon cycling, and other global dynamics. Processes in the Arctic and Antarctic are central to understanding past and future climate variations, biodiversity and marine resources. In this course, we will build on fundamental physical and biological principles to understand the links between the cryosphere, ocean, atmosphere and biosphere in the Polar Regions. We will explore the drivers of polar change, and the ramifications of these changes for the Earth system and climate. Course topics include: polar oceanography, ocean-cryosphere-atmosphere interactions, physics of glaciers and sea ice, primary and secondary production in polar systems, polar marine food webs, marine ecology, and climate change. The course will also highlight approaches and technologies used to make measurements in the polar oceans and cryosphere.

16:712:603 ***Numerical Modeling of the Atmosphere and Ocean 1 (3)***
Governing equations of atmospheric/oceanic motion; simplification and scaling; parameterization issues; numerical solution of the equations; Fourier and spectral methods; and evaluation of atmospheric and oceanic models.
Prerequisites: 16:375:547 or equivalent; Proficiency in a high-level programming language.

16:712:605/606 ***Oceanography Seminar (1)***
Scientific papers are read in order to foster discussion and critical analysis by students of important scientific topics. Papers are selected from all disciplines with an emphasis on interdisciplinary studies. Faculty instructors provide guidance and comment.

16:712:615 ***Geophysical Data Analysis (3)***
Quantitative analysis and display of spatial and time-series data; filters; spectral analysis; covariance; coherence; confidence intervals; goodness-of-fit; optimal interpolation of unequally spaced data; empirical orthogonal functions; and harmonic analysis. Practical exercises using MATLAB to analyze data from marine and environmental instruments, satellites, and climatologies. Communicating quantitative results to an audience.
Prerequisites: Calculus, differential equations, linear algebra.

16:712:701/702 ***Research in Oceanography (BA)***

Oceanography 712 (SGS-OCEAN)

Master of Operational Oceanography

Master of Operational Oceanography

The Rutgers Master's of Operational Oceanography (MOO) program offers a comprehensive education in operational oceanography, emphasizing applied experiences and cutting-edge technology, with a focus on numerical forecast models, data synthesis/analysis, and real-time ocean observing teams, preparing graduates for careers in research and industry to contribute to the sustainable growth of the Blue Economy.

Gain Marketable Skills in 12 Months

A combination of hands-on experience, research, and targeted coursework empowers our students to tackle real world challenges and provides them with an edge over other candidates in the job market.

The Master of Operational Oceanography track is a compact 12-month Master of Science degree program providing thorough but efficient applied training for students from around the world. For Rutgers students, it also provides a concise path for marine science undergraduates to earn a master's with a single year of additional training (a "4+1" model).

With small class numbers and an individualized mentorship model, we support our students in building :

marine science expertise

collaborative skills

observing system technology experience

data literacy

ocean modeling literacy

communication skills

job preparation

The Master of Operational Oceanography track is grounded in a three prong approach: building foundational knowledge and practical skills through core courses, providing opportunities to gain real experience working with marine technology, and fostering connections with professionals and peers.

Core Courses

Summer Session III:

16:712:507 Field Laboratory Methods 1
This hands-on laboratory course provides students with practical experience in ocean observation techniques and field data collection. Students will gain direct exposure to key marine technologies, including shipboard sensors, autonomous underwater vehicles, high-frequency radar (HFR), and electronic systems used in operational oceanography. Through lab exercises and field deployments, students will develop essential technical skills needed for careers in marine science and industry. The course emphasizes vessel safety, equipment handling, data visualization, and electronic system troubleshooting, ensuring that students are well-prepared to work in dynamic field environments.

Fall Semester:

16:712:501 Physical Oceanography
Physical properties and basic equations for describing waves, tides, currents, and the large-scale wind-driven and thermohaline circulation. Ekman, geostrophic, and inertial flows. Gulf Stream; air-sea interactions; El Niño.

16:712:505 Integrated Ocean Observing 1
This course provides a comprehensive introduction to the essential tools and techniques used in ocean observation. Students will develop a strong theoretical foundation in major ocean observing approaches while gaining practical

experience in data collection, processing, and analysis. The course emphasizes the application of observational data to address real-world marine and environmental challenges. Through lectures, hands-on exercises, and fieldwork, students will acquire the technical skills necessary for careers in marine science, environmental monitoring, and related industries.

16:712:509 Integrated Ocean Observing – Software Bootcamp
This bootcamp introduces widely used scientific computing tools and fundamental coding practices for ocean and geoscience research. Designed for beginners, the course focuses on building a strong programming foundation to enhance data analysis, visualization, and reproducibility. Topics include Jupyter notebooks, Unix shell scripting, Python programming, and essential geoscience libraries such as NumPy, Matplotlib, Pandas, Xarray, and Cartopy. Students will also learn version control with Git and how to access public Earth science datasets. The course culminates in a project tailored to each student's research interests, helping them apply their newly acquired skills to real-world data.

16:712:510 Operational Ocean Modeling/Visualization 1
This course provides a comprehensive introduction to the numerical and computational tools used in ocean research and forecasting. Students will explore the fundamentals of ocean modeling, gain hands-on experience running the Regional Ocean Modeling System (ROMS), and evaluate real-time operational modeling products. The course will emphasize best practices for configuring, running, and analyzing ocean models. Additionally, students will develop proficiency in handling large-scale oceanographic datasets and leveraging high-performance computing (HPC) environments to conduct advanced modeling experiments. Through interactive lectures and hands-on computational exercises, students will gain the skills necessary to interpret, analyze, and apply ocean model output to real-world scientific and operational challenges.

01:450:321 Geographic Information Systems
Geographic Information Systems (GIS) is a rapidly growing field that is increasingly popular for a wide range of spatial analyses. Some of the uses for GIS include environmental modeling, urban and land use planning, facilities management, social and demographic change analyses, economic development, site suitability analyses, marketing, and community development and enrichment initiatives.

Spring Semester:

16:712:506 Integrated Ocean Observing 2
The ocean plays a central role in regulating the Earth's climate, supporting biodiversity, and sustaining human economies. Understanding and predicting ocean conditions are crucial for human safety, resource management, and scientific advancement. This course builds upon foundational ocean observing concepts by exploring advanced observational techniques, data-driven forecasting, and real-world applications in marine industries. Students will gain hands-on experience with cutting-edge oceanographic tools, sensor networks, and data analysis methods while also preparing for professional careers in ocean science and technology. Through lectures, workshops, and practical exercises, students will develop technical expertise and critical thinking skills essential for addressing global, regional, and coastal ocean challenges.

16:712:508 Field Laboratory Methods 2
Building on the foundational skills developed in Field Lab Methods 1, this advanced laboratory course provides students with in-depth hands-on training in ocean observation technologies and fieldwork. Students will refine their skills in sensor development, glider preparation, high-frequency radar (HFR) operations, and autonomous

underwater vehicle (AUV) deployments. The course includes extensive fieldwork, research cruises, and shipboard instrumentation training, enabling students to apply theoretical knowledge in real-world marine environments. Emphasis is placed on data acquisition, processing, and analysis to support scientific and operational oceanography.

Field Experience:

Our students benefit from joining one of the worlds most advanced and longest operating ocean observatories. As part of our team, students work directly with our faculty, technicians, and partners across NJ and worldwide to deploy and repair gliders, help install and maintain our high frequency radar network, and operate marine equipment to support ongoing RUCOOL research.

Mentoring:

Students participate in group and individual meetings throughout the program so that we can best support them both during the program and as they embark on their career path. Group meetings allow students to learn from and collaborate with the entire RUCOOL group. Meanwhile, 1-on-1 meetings help our faculty to identify and work with each student to meet their research and career goals.

Application Instructions

Applications received by January 1 receive full consideration. Applications received after that may be considered on a rolling basis but are not guaranteed. The program begins in late May each year.

For information about applying to Rutgers graduate school see the Rutgers Graduate and Professional Admissions website. The GRE is not required for this degree program.

Required documents must include:

- Application Fee
- Personal Statement
- Resume/ CV
- Unofficial transcripts
- 3 letters of recommendation.
- Credential Evaluation (*Required for International applicants)

Optional:

- Field Evaluation
- Writing Sample
- Name(s) of Faculty of Interest

Preferred Application Requirements:

A baccalaureate degree in marine science or related field, and one year of calculus and physics.

Costs and Funding:

Master of Operational Oceanography students are self-funded. Full cost of the program attendance is based on university tuition and fees rates for the School of Graduate Studies.

Oceanography 712 (SGS-OCEAN)

Application Requirements

Application Requirements

Applicants are expected to have an undergraduate degree in either mathematics, science or engineering. In addition, they shall have completed prerequisite courses as listed. Students must show proficiency in English, if they are foreign students. Students may be accepted subject to the requirement that additional courses are taken to make up deficiencies in their background. Admission to the program also depends on other factors such as work experience, letters of recommendation, and the suitability of background. The GRE is not required for this degree program.

The minimum requirements for entry into the program are:

- one year of calculus
- one year of physics
- one year of biology

Required documents must include:

- Application Fee
- Personal Statement
- Resume/ CV
- Unofficial transcripts
- 3 letters of recommendation
- Credential Evaluation (*Required for International applicants)
- Optional:
- Field Evaluation
- Writing Sample
- Names of Faculty of Interest

Students wishing to pursue a degree with an emphasis in physical oceanography will typically have additional mathematics including differential equations and computer programming.

Students who wish to emphasize chemical oceanography or geochemistry will typically have had one year of organic chemistry and one year of physical chemistry. To study biological oceanography, it is recommended that students have at least one year of organic chemistry and adequate preparation in the biological sciences.

Decisions on admissions to the Program, and interpretation of these requirements, is the responsibility of the Admissions Committee, as provided in the Program Bylaws.

Packaging Engineering 731 (SGS-PACKENG)

PACKAGING ENGINEERING 731

Please visit the Packaging Engineering website.

Degree Programs Offered: M.S.

Program Description

Packaging Engineering Program is designed to provide engineering professionals from a variety of disciplines with the skills and training necessary for career advancement in the areas of packaging design and development, manufacturing, project management, and sustainable and innovative packaging. Professionals working in packaging or a related field may enhance their education and on-the-job experience by earning this degree.

Faculty

Alberto Cuitino, Ph.D., Brown

Hae Chang Gea, Ph.D., Michigan

Xi Gu, Ph.D., Michigan

Weihong (Grace) Guo, Ph.D., Michigan (Ann Arbor)

Tian Jin, Ph.D., Rutgers

Jennifer Lynch-Branzoi, Ph.D., Rutgers

Christopher Miller

Hoang Pham, Ph.D., SUNY (Buffalo)

Packaging Engineering 731 (SGS-PACKENG)

Degree Requirements

Degree Requirements

For more information, please see the Graduate Programs page on the School of Graduate Studies website.

Packaging Engineering 731 (SGS-PACKENG)

Course Descriptions

Course Descriptions:

16:731:501 ***Fundamentals of Packaging Engineering (3)***
Physical and chemical properties of packaging materials; design manufacture, performance, and evaluation of packages.

16:731:511 ***Instruments for Analysis of Packaging Materials (3)***
Analytical methods for packaging including spectrophotometry and chromatography.
Material identification and characterization. Migration and permeation measurements.

16:731:512 ***Packaging Distribution and Dynamics (3)***
Various engineering concepts, which are related to packaging such as acceleration, vibration, mechanical shock, and others.

16:731:521 ***Polymeric Packaging Materials (3)***
Emphasis on various material characteristics of polymers in packaging.

16:731:524 ***Processing of Plastics for Packaging Development (3)***
Processing of packaging plastics, extrusion, coating, film, containers. Effects of processing variables on morphology and performance.

16:731:525 ***Advanced Packaging Materials (3)***
Physical and chemical properties of packaging materials; design manufacture, performance, and evaluation of packages.

16:731:527 ***Stability and Recyclability of Packaging Materials (3)***
Emphasis on the various material characteristics for packaging recyclability and design methods.

16:731:531 ***Packaging Invention and Innovation (3)***
Emphasis on the various design processes in packaging such as Generation X, toy, food, and other related packaging.

16:731:532 ***Anti-Counterfeit Strategy and Product Protection (3)***
Theory and applied techniques for anti-counterfeit strategies and product protection for food and consumer products.

16:731:541 ***Simulation, Modeling, and Analysis in Packaging Engineering (3)***
Advanced computer-aided design techniques and computer simulation for packaging design and evaluation.

16:731:545 ***Packaging and the Environment (3)***
Focuses on the environmental issues within the packaging industry. This course will cover the life cycle of different packaging materials and sustainable packaging issues in sustainable packaging design.

16:731:547 ***Packaging Laws and Regulations (3)***
Study of the legal and regulatory issues affecting primary, secondary, and tertiary packaging and packaging systems. Labeling, food and drug, intellectual property, shipping, structural, and environmental laws and regulations affecting packaging design and use.

16:731:549 ***Packaging Value Chain (3)***
The course will cover various topics related to packaging value chain including design, service, process, technology, facilities, human resources, supply chain strategy, and global distribution.

16:731:551 ***Advanced Packaging Printing (3)***
Advanced methods of printing packages including copy preparation, design, electronic imaging, aesthetics, camera use, and effects of package materials. Production of printed packages including quality control, economics, and environmental considerations.

16:731:553 ***Quality Assurance (3)***
Covers various aspects of packaging quality assurance including packaging specifications and tests, packaging materials selection, good manufacturing practices, inspection, and regulations.

16:731:560 ***Packaging Seminar (1)***
Presentations of detailed studies on specialized aspects of packaging.

16:731:562 ***Selected Topics (3)***
Selected topics of interest to graduate packaging students.

16:731:571 ***Principles and Practice of Packaging Development (3)***
Covers various food, consumer, and pharmaceutical packaging technologies in material selections, manufacturing process, distribution, and more.

16:731:573 ***Packaging Barrier and Protection Properties (3)***
Covers testing, analysis, and case study of barrier and protection properties of various packages used in food, consumer, and pharmaceutical packaging industry.

16:731:575 ***Advanced Pharmaceutical Packaging (3)***
Emphasis on the various pharmaceutical packaging technologies, regulations, and supply chain.

16:731:577 ***Regulatory Oversight of Pharmaceutical Packaging (3)***
Emphasis on regulatory oversight of pharmaceutical packaging, the regulations, the agencies either influencing or enacting legislation and guidelines, and how these topics influence package design, manufacture, and distribution in the supply chain.

16:731:580 ***Professional Internship Packaging (3)***
Supervised professional experience in the field of packaging offered through corporations and other businesses throughout United States.

16:731:590 ***Independent Study in Packaging (3)***
Special investigations of unique packaging problems.

16:731:591 ***(F) Research (1-6)***
Emphasis on various packaging technologies, regulations, and supply chain.

16:731:592 ***(S) Research (1-6)***
Emphasis on various packaging technologies, regulations, and supply chain.

16:731:593 ***Master's Project (3)***
Special project to conduct individual research and innovation in the field of packaging

Packaging Engineering 731 (SGS-PACKENG)

Application Requirements

Application Requirements

- Online application and non-refundable application fee
- Personal statement
- One official transcript from each postsecondary institution attended
- Current test results, as required by the program
- Letters of recommendation

- Supporting materials, as required by the program

Packaging Engineering 731 (SGS-PACKENG)

Application Deadlines

Application Deadlines

May 1

Packaging Engineering 731 (SGS-PACKENG)

List of Core Courses

List of Core Courses

See Handbook here for details on prerequisites and more detailed information.

Also, for additional curriculum information see the Packaging Endineering Curriculum site.

Pharmaceutical Science 720 (SGS-PHARMSCI)

PHARMACEUTICAL SCIENCE 720

Please visit the Pharmaceutical Science website.

Degree Programs Offered: M.S., Ph.D.

Program Description

The future of Pharmaceutical Science lies in a better integration of the fundamentals of pharmaceutics (physical and biological pharmacy) and basic cellular and molecular biology. The current Pharmaceutical Science graduate program at Rutgers is at the forefront of pharmaceutical science research. Research avenues for pharmaceutical scientists—from drug discovery, drug delivery, drug development (pharmacokinetics (PK), pharmacodynamics (PD), PK-PD modeling and clinical trials) to basic cellular signaling of disease states and pharmaceuticals—are wide open. The graduate program in pharmaceutical science at Rutgers' Ernest Mario School of Pharmacy, ranked among the top programs in this field in the 2010 National Research Council (NRC) ratings.

Here students find a research environment in which competitive, funded, and cutting-edge work is conducted with a multidisciplinary faculty of respected scientists. Students learn the skills and knowledge demanded by the modern needs of our field, mastering the ability to both:

- Advance current knowledge in traditional pharmaceutical science and
- Integrate the great strides being made in genomics, molecular/cellular biology, and Big Data capability into a new understanding of pharmaceutical science.

Scientists graduating from our program enjoy a competitive advantage in pursuing successful careers in academia, regulatory agencies, and the pharmaceutical and biotechnology industries.

Faculty

Ioannis Androulakis, Ph.D., Purdue

Edward Arnold, Ph.D., Cornell

Luigi Brunetti, Ph.D., Rutgers

Suzie Chen, Ph.D., Albert Einstein

Alberto Cuitino, Ph.D., Brown

Richard Ebright, Ph.D., Harvard

Zhaohui Feng, Ph. D., Zhejiang (China)

Christina Glytsou, Ph.D., Padua

Ronald Hart, Ph.D., Michigan

Arash Hatefi, Ph.D., Alberta (Canada)

Wenwei Hu, Ph.D., Zhejiang

Leonid Kagan, Ph.D., Hebrew (Jerusalem)

Ah-Ng Tony Kong, Ph.D., SUNY (Buffalo)

Fang Liu, Ph.D., Harvard

Matthew McBride

Bozena Michniak-Kohn, Ph.D., Leicester Polytechnic

Audrey Minden, Ph.D., Illinois (Chicago)

Tamara Minko, Ph.D., Ukrainian

Fernando Muzzio, Ph.D., Massachusetts (Amherst)

Patrick Sinko, Ph.D., Michigan

Marc Sturgill, Ph.D., Kentucky

Nanjoo Suh, Ph.D., Illinois (Chicago)

Jay Tischfield, Ph.D., Yale

Jun Wang, Ph.D., Pennsylvania

William Welsh, Ph.D., Pennsylvania

Martin Yarmush, Ph.D., Rockefeller; M.D., Yale

Guofeng You, Ph.D., Clark

Renping Zhou, Ph.D., California (Berkeley)

Wei-Xing Zong, Ph.D., UMDNJ

Pharmaceutical Science 720 (SGS-PHARMSCI)

Ph.D. Degree Requirements

Ph.D. Degree Requirements

Degree Requirements

The program for the M.S. and Ph.D. degree consists of a defined core of courses required of all students in the program, electives which fit individual needs, and original research under the supervision of a major advisor.

Ph.D. level studies require a minimum of 27 credits of coursework and 45 credits of research.

Required Credits (9 credits required from the following courses):

16:720:507 Advanced Pharmaceutics/Physical Pharmacy (Sinko) (3)

16:720:509 Advanced Pharmacokinetics/Dynamics (Kong) (3)

16:720:614 Molecular and Cellular Pharmaceutics (Minko) (3)

16:720:609 Molecular and Functional Genomic Aspects of Membrane Transport (You) (3)

16:720:523 Dermaceutics (Michniak-Kohn) (3)

16:720:549 Genetically Engineered Drug Delivery Systems (Hatefi) (3)

16:963:505 Molecular Toxicology (4)

16:695:538 Fundamentals of Molecular Biosciences (6)

16:115:511, or 01:694:407 Molecular Biology & Biochemistry (3)

30:158:409 Pharmacogenomics and Precision Medicine (2)

Required Credits (6 credits required from the following courses):

16:720:540 Independent Research Proposal (NIH Proposal) (3)

16:720:601,602 Seminar in Pharmaceutical Science (2)

16:115:556 Ethical Scientific Conduct (1)

Required Electives (12 credits required from the following courses):

16:960:590 Design of Experiments (3)

16:963:501 Principles of Toxicology (3)

16:400:612 Colloidal Chemistry of Food (3)

16:400:613 Nanotechnology and Its Applications in Biotechnology and Food (3)

16:718:680 Cellular & Molecular Pharmacology: Principles of Drug Action and Targeting (3)

16:663:501 Medicinal Chemistry: Research Techniques and Principles (3)

16:663:502 Principles of Drug Design (3)

16:663:504 Strategies and Tactics in Synthetic Medicinal Chemistry (3)

16:663:505 Drugs: Structure and Function (3)

01:960:401 Basic Statistics for Research (3)

16:160:510 Introduction to Molecular Modeling (3)

16:115:511 Molecular Biology and Biochemistry I (3)

16:115:512 Molecular Biology and Biochemistry II (3)

16:960:563 Regression Analysis (3)

16:125:629 Special Topics: Innovation & Entrepreneurship (Cross listed with 14:125:492:Y2-special program BME) (3)

16:155:546 Pharmaceutical Process Design II (Unit Operations) (3)

30:721:430 Introduction to Biopharmaceutics and Pharmacokinetics (4)

16:155:544 Pharmaceutical Organic Nanotechnology (3)

16:155:549 Advanced Engineering Pharmaceutical Kinetics, Thermodynamics and Transport Process (3)

16:160:504 Recent Advances in Organic Chemistry (3)

16:160:506 Advanced Organic Synthesis (3)

*Other electives that are approved by thesis advisor and graduate director may be accepted.

Pharmaceutical Science 720 (SGS-PHARMSCI)

M.S. Thesis Degree Requirements

M.S. Thesis Degree Requirements

Degree Requirements

Master's thesis level studies consist of a minimum of 24 credits of coursework and 6 credits of research.

Required Credits (9 credits required from the following courses):

16:720:507 Advanced Pharmaceutics/Physical Pharmacy (Sinko) (3)

16:720:509 Advanced Pharmacokinetics/Dynamics (Kong) (3)

16:720:614 Molecular and Cellular Pharmaceutics (Minko) (3)

16:720:609 Molecular and Functional Genomic Aspects of Membrane Transport (You) (3)

16:720:523 Dermaceutics (Michniak-Kohn) (3)

16:720:549 Genetically Engineered Drug Delivery System (Hatefi) (3)

16:963:505 Molecular Toxicology (4)

16:695:538 Fundamentals of Molecular Biosciences (6)

16:115:511, or 01:694:407 Molecular Biology & Biochemistry (3)

30:158:409 2 Pharmacogenomics and Precision Medicine (2)

Required Credits (2 credits required from the following courses):

16:720:601, 602 Seminar in Pharmaceutical Science (1)

16:115:556 Ethical Scientific Conduct (1)

Required Electives (13 credits required from the following courses):

16:960:590 Design of Experiments (3)

16:963:501 General Toxicology I (2)

16:963:505 Biochemical Toxicology (4)

16:963:633 Molecular Toxicology (2)

16:400:612 Colloidal Chemistry of Food (3)

16:400:613 Nanotechnology and Its Applications in Biotechnology and Food (3)

16:718:680 Cellular & Molecular Pharmacology: Principles of Drug Action and Targeting (3)

16:663:501 Medicinal Chemistry: Research Techniques and Principles (3)

16:663:502 Principles of Drug Design (3)

16:663:504 Strategies and Tactics in Synthetic Medicinal Chemistry (3)

16:663:505 Drugs: Structure and Function (3)

01:960:401 Basic Statistics for Research (3)

16:160:510 Introduction to Molecular Modeling (3)

16:115:511 Molecular Biology and Biochemistry I (3)

16:115:512 Molecular Biology and Biochemistry II (3)

16:960:563 Regression Analysis (3)

16:125:629 Special Topics: Innovation & Entrepreneurship (Cross-listed with 14:125:492:Y2-special program BME)

16:155:546 Pharmaceutical Process Design II (Unit Operations)

30:721:430 Introduction to Biopharmaceutics and Pharmacokinetics (4)

16:155:544 Pharmaceutical Organic Nanotechnology (3)

16:155:549 Advanced Engineering Pharmaceutical Kinetics, Thermodynamics and Transport Process (3)

16:160:504 Recent Advances in Organic Chemistry (3)

16:160:506 Advanced Organic Synthesis (3)

*Other electives that are approved by thesis and graduate director may be accepted

Pharmaceutical Science 720 (SGS-PHARMSCI)

M.S. Non-Thesis Degree Requirements

M.S. Non-Thesis Degree Requirements

Degree Requirements

Master's Non-thesis level studies consist of a total of 30 course credits.

Required Credits (9 credits required from the following courses):

16:720:507 Advanced Pharmaceutics/Physical Pharmacy (Sinko) (3)

16:720:509 Advanced Pharmacokinetics/Dynamics (Kong) (3)

16:720:614 Molecular and Cellular Pharmaceutics (Minko) (3)

16:720:609 Molecular and Functional Genomic Aspects of Membrane Transport (You) (3)

16:720:523 Dermaceutics (Michniak-Kohn) (3)

16:720:549 Genetically Engineered Drug Delivery Systems (Hatefi) (3)

16:963:505 Molecular Toxicology (4)

16:695:538 Fundamentals of Molecular Biosciences (6)

16:115:511, or 01:694:407 Molecular Biology & Biochemistry (3)

30:158:409 2 Pharmacogenomics and Precision Medicine (2)

Required Credits (2 credits required from the following courses):

16:720:601, 602 Seminar in Pharmaceutical Science (1)

16:115:556 Ethical Scientific Conduct (1)

Required Electives (19 credits required from the following courses):

16:960:590 Design of Experiments (3)

16:963:501 General Toxicology I (2)

16:963:505 Biochemical Toxicology (4)

16:963:633 Molecular Toxicology (2)

16:400:612 Colloidal Chemistry of Food (3)

16:400:613 Nanotechnology and Its Applications in Biotechnology and Food (3)

16:718:680 Cellular & Molecular Pharmacology: Principles of Drug Action and Targeting (3)

16:663:501 Medicinal Chemistry: Research Techniques and Principles (3)

16:663:502 Principles of Drug Design (3)

16:663:504 Strategies and Tactics in Synthetic Medicinal Chemistry (3)

16:663:505 Drugs: Structure and Function (3)

01:960:401 Basic Statistics for Research (3)

16:160:510 Introduction to Molecular Modeling (3)

16:115:511 Molecular Biology and Biochemistry I (3)

16:115:512 Molecular Biology and Biochemistry II (3)

16:960:563 Regression Analysis (3)

16:125:629 Special Topics: Innovation & Entrepreneurship (Cross-listed with 14:125:492:Y2-special program BME) (3)

16:155:546 Pharmaceutical Process Design II (Unit Operations) (3)

30:721:430 Introduction to Biopharmaceutics and Pharmacokinetics (4)

16:155:544 Pharmaceutical Organic Nanotechnology (3)

16:155:549 Advanced Engineering Pharmaceutical Kinetics, Thermodynamics an Transport Process (3)

16:160:504 Recent Advances in Organic Chemistry (3)

16:160:506 Advanced Organic Synthesis (3)

*Other electives that are approved by thesis advisor and graduate director may be accepted.

Upon admission to the program, students and major advisor will then plan a program of study and select a Thesis (Master of Science) or Dissertation (Doctor of Philosophy) Committee. Master's candidates who have completed their course and research requirements are required to prepare a written thesis and are then examined by their Thesis Committee as a final requirement in the M.S. degree program. Students in the Ph.D. program after satisfactorily completing a significant amount of course credits must prepare a written original research proposal which they must then defend before their Dissertation Committee. Once these requirements are fulfilled the student becomes a candidate for the Ph.D. degree. Upon completion of all coursework and the research project the candidate prepares a written Dissertation which must be defended before their committee. Specific details of all requirements for both the M.S. and Ph.D. degree program are outlined in the "Policy Statement on Procedures for Granting or Denying Graduate Degrees in Pharmaceutical Science".

Pharmaceutical Science 720 (SGS-PHARMSCI)

Course Descriptions

Course Descriptions

16:720:507 Advanced Pharmaceutics (3)
Application of physical-chemical principles to the study and evaluation of pharmaceutical systems: solubility phenomena, equilibria, complexation, phase transitions, and pharmaceutical stability, and the fundamentals of pharmacokinetics.

16:720:509 Advanced Pharmacokinetics/Dynamics (3)
Methods, models, and equations used in pharmacokinetics along with their physicochemical and physiological assumptions and limitations. Graphical computer methods of data analysis and applications of pharmacokinetic-pharmacodynamic modeling of pharmacologic responses in biological systems.

16:720:523 Dermaceutics (3)
Design of topical drug delivery systems; theoretical and practical considerations in development of topical disperse systems; skin permeation of drugs and its optimization; dermatologic and cosmetic applications.

16:720:527 Biopharmaceutics of Orally Administered Drugs (3)
Covers the biopharmaceutical sequence of events that occur after the oral administration of drugs starting from mechanisms of uptake/secretion through delivery to systemic circulation.

16:720:540 Independent Research Proposal (3)
Develop a written research proposal using the standard HHS/NIH format as part of the Ph.D. degree requirements. Proposal is evaluated as to its originality, scientific merit, and quality. Enrollment limited to Ph.D. candidates with approval of their adviser.

16:720:549 Genetically Engineered Drug Delivery Systems (3)
Genetically engineered therapeutic systems; emphasis on biopolymers (recombinant polymers), viruses, and stem cells.

16:720:550 Nanotechnology-Based Drug Delivery (3)
Materials and processes for novel drug delivery systems; synthesis of biocompatible nanoparticles for health care; product design, current products, and regulatory issues.

16:720:601,602 Seminar in Pharmaceutical Science (1,1): Presentation and discussion of recent developments in the pharmaceutical sciences.

16:720:609 Membrane Transporters in Drug Disposition (3)
Drug transporters, their roles in human physiology and diseases, and principles of drug transport and its associated techniques.

16:720:610,611 Independent Study in Pharmaceutical Science (BA,BA)
Independent library and/or laboratory research into special aspects of pharmaceutical science; arranged under the supervision of a specific faculty member. No more than 3 credits may be taken as part of a student's program.

16:720:614 Molecular and Cellular Pharmaceutics (3)
Cellular response to drugs in different dosage forms and drug delivery systems. Transport through biological barriers of different drug delivery forms, the main cellular signaling pathways triggered by various drugs and drug formulations, types of cell death induced by various types of modern drugs, cellular adaptation to drug exposure, cellular mechanisms of multidrug resistance, interaction between drugs and DNA. Principles of pharmacogenomics and pharmacogenetics.

16:720:701,702 Research in Pharmaceutical Science (BA,BA)

16:115:556 Ethical Scientific Conduct (1)
Introduction to ethical issues of scientific investigation, including intellectual property, plagiarism, conflict of interest, human and animal subjects, and record keeping.

Additional Graduate Courses and Descriptions:

- ***01:960:401*** *Basic Statistics for Research (3)*
- ***16:115:511,512*** *Molecular Biology and Biochemistry (3,3)*
- ***16:160:510*** *Introduction to Molecular Modeling (3)*
- ***16:663:501*** *Medical Chemistry Research Techniques and Principles (3)*
- ***16:663:502*** *Principles of Drug Design (3)*
- ***16:663:504*** *Strategies and Tactics in Synthetic Medicinal Chemistry (3)*
- ***16:663:505*** *Drugs; Structure and Function (3)*
- ***16:718:680*** *Cellular and Molecular Pharmacology: Principles of Drug Action and Targeting (3)*
- ***16:960:590*** *Design of Experiments (3)*
- ***16:963:501*** *General Toxicology I (2)*
- ***16:963:505*** *Biochemical Toxicology (4)*
- ***16:963:633*** *Molecular Toxicology (2)*

Application Requirements

Application Requirements

The application is viewed as complete when it contains the completed application form (with the application fee), three letters of recommendation, an official transcript, personal statement, GRE test scores (general exam), the TOEFL Examination Score (when applicable), and resume.

Graduate Admissions Application Fee Waivers: The Office of Graduate Admissions grants application fee waivers to the following groups only: active U.S. military and military veterans who plan to apply for educational benefits under the GI Bill, current Rutgers students and alumni, and participants in various scholar programs. Students are automatically reviewed for fee waiver eligibility based on the information they provide on their Rutgers graduate school application. Contact ***Graduate Admissions Office-New Brunswick.***

Pharmaceutical Science 720 (SGS-PHARMSCI)

Admission Deadlines

Admission Deadlines

Fall: March 1

Spring: November 1

Pharmaceutical Science 720 (SGS-PHARMSCI)

List of Core Courses

List of Core Courses

Advanced Pharmacokinetics & Dynamics

Ordinary differential equations (or equivalent) Course No: 16:720:509 Molecular and Cellular Pharmaceutics Course No: 16:720:614 Membrane Transporters in Drug Disposition Course No: 16:720:609 Dermaceutics Course No: 16:720:523

Genetically Engineered Drug Delivery Systems Pre-requisite: Molecular and Cell Biology Course No: 16:720:549

Molecular Toxicology Course No: 16:963:505

Fundamentals of Molecular Biosciences Course No: 16:695:538

Molecular Biology and Biochemistry Course No: 16:115:511,512, or 01:694:407 Pharmacogenomics and Precision Medicine Course No: 30:158:409

Ethical Scientific Conduct Course No: 16:115:556 Independent Research Proposal Course No: 16:720:540

Seminar in Pharmaceutical Science Course No: 16:720:601,602 Research in Pharmaceutical Science Course No: 16:720:701,702

Cellular and Molecular Pharmacology: Principles of Drug Action and Targeting Course No: 16:718:680

Philosophy 730 (SGS-PHIL)

PHILOSOPHY 730

Please visit the Philosophy website.

Degree Programs Offered: Ph.D.

Program Description

Our graduate program offers well-prepared students rigorous training by some of the best philosophers in the world. After starting with a proseminar only for first years, students continue taking multiple small seminars, as well as participating in reading groups and receiving one-on- one mentoring.

Faculty

Karen Bennett, Ph.D., Michigan

Elisabeth Camp, California (Berkeley)

Juan Comesaña , Ph.D., Brown

Derrick Darby, Ph.D., Pittsburgh

Daniela Dover, Ph.D., New York University

Andy Egan, Ph.D., Massachusetts Institute of Technology

Michael Glanzberg, Ph.D., Harvard

Alex Guerrero, J.D., Ph.D., New York University

Zoe Jenkin,Ph.D., Harvard

Tao Jiang, Ph.D., Temple

P. Justin Kalef, Ph.D., Victoria

Frances Kamm, Ph.D., Massachusetts Institute of Technology

Jeff King, Ph.D., San Diego

Marc Lange, Ph.D., Pittsburgh

Brian Leftow, Ph.D., Yale

Ernest Lepore, Ph.D., Minnesota

Martin Lin, Ph.D., Chicago

Edward McCrossin, Ph.D., Yale

Brian Mclaughlin, Ph.D., Chapel Hill (North Carolina)

Jill North, Ph.D., Rutgers

Michael Otsuka, Ph.D., Oxford

Paul Pietroski Ph.D., Massachusetts Institute of Technology

Jerry Piven, Ph.D., Syracuse

James Quilty-Dunn, Ph.D., CUNY

Carolina Sartorio, Ph.D., Massachusetts Institute of Technology

Jonathan Schaffer, Ph.D., Rutgers

Susanna Schellenberg, Ph.D., Pittsburgh

Virginia Sharpe, Ph.D., Georgetown

Ted Sider, Ph.D., Massachusetts

Alexander Skiles, Ph.D., Notre Dame

Ernest Sosa, Ph.D., Pittsburgh

Alec Walen, J.D., Harvard; Ph.D., Pittsburgh

Dean Zimmerman, Ph.D., Brown

Associate Graduate Faculty

David Albert Ph.D., Rockefeller

Mark Baker, Ph.D., Massachusetts Institute of Technology

Katalin Balog, Ph.D., Rutgers

Edwin Bryant, Ph.D., Columbia

Rafaella DeRosa, Ph.D., Rutgers

Nir Eyal, Ph.D., Oxford

Jonathan Gingerich, J.D., Harvard; Ph.D., California (Los Angeles)

Sheldon Goldstein, Ph.D., Yeshiva

Camil Golub, Ph.D., New York University

Adil Ahmad Haque, J.D., Yale

Cameron Kirk-Giannini, M.Phil., Oxford; Ph.D., Rutgers

Crescente Molina, J.D., New York University

John Oberdiek, J.D. and Ph.D., Pennsylvania

Dennis Patterson, J.D. and Ph.D., Buffalo

Kenneth Safir, Ph.D., Massachusetts Institute of Technology

Matthew Shapiro, Ph.D., Oxford, J.D. Yale

Matthew Stone, Ph.D., Pennsylvania

Simon Thomas, Ph.D., London

Philosophy 730 (SGS-PHIL)

Degree Requirements

The requirements for the Ph.D. in Philosophy are designed to provide broad knowledge of the main areas of philosophy and to develop the ability to do philosophical research. Students should be able to finish the program in five years.

Philosophy 730 (SGS-PHIL)

Course Descriptions

Course Descriptions

16:730:501 ***Survey in Epistemology (3)***
A survey of central work in epistemology, including rival theories of justification and knowledge and responses to skepticism.

16:730:502 ***Survey in Philosophy of Metaphysics (3)***
A survey of central issues in metaphysics, including ontological commitment, realism versus nominalism about abstract objects, modality, causation, and laws of nature.

16:730:503 ***Survey in Value Theory (3)***
A survey of central work in ethics, social, and political philosophy. Topics include virtue theory, Kant, utilitarianism, consequentialism, nonnaturalism, emotivism, antirealism, justice as fairness, rights, and liberalism.

16:730:504 ***Survey in Philosophy of Science and Decision Theory (3)***
A survey of central work in philosophy of science and decision theory. Topics include confirmation theory, scientific explanation, scientific realism, Bayesian decision theory, representation theorems, and game theory.

16:730:505 ***Survey in Philosophy of Mind (3)***
A survey of central work in philosophy of mind. Topics include physicalism, functionalism, intentionality, language of thought, consciousness, and qualia.

16:730:506 ***Survey in Philosophy of Language (3)***
A survey of central work in philosophy of language. Topics include theories of reference and theories of meaning.

16:730:510 ***(F) Mathematical Logic (3)***
Introduction to the basic results of mathematical logic, including completeness, in decidability, and Godel's theorems.

16:730:513 ***(F) Logic and Natural Language (3)***
Logic as a tool in the semantic analysis of natural language; relation between symbolic and natural languages.
Prerequisite: 16:730:510.

16:730:520 ***Seminar in Plato (3)***
Study of representative works from the main periods of Plato's thought.

16:730:521 ***Seminar in Aristotle (3)***
Study of some main works of central importance in the Aristotelian Corpus.

16:730:526 ***Seminar in Medieval Philosophy (3)***
Medieval metaphysics; philosophy of nature and epistemology; time and eternity; the infinite; creation; causality; and scepticism.

16:730:530 ***Seminar in 17th-Century Philosophy (3)***
Examination of a major philosopher, work, or topic of the period. Emphasis on metaphysics and epistemology; connections with other problems in philosophy and the natural sciences.

16:730:533 ***Seminar in 18th-Century Philosophy (3)***
Examination of a major philosopher, work, or topic of the period. Emphasis on metaphysics and epistemology; connections with other problems in philosophy and the natural sciences.

16:730:550 ***Seminar in Epistemology (3)***
Nature of justification, belief, and truth; rival accounts of knowledge; traditional and contemporary perspectives on empiricism, rationalism and pragmaticism, and skepticism.

16:730:553 ***Seminar in Metaphysics (3)***
The problem of universals. Concepts of the infinite, time, causality, notions of possibility and necessity, and counterfactuals.

16:730:556 ***Seminar in Philosophy of Science (3)***
Philosophical problems connected with modern science.

16:730:570 ***Seminar in Philosophy of Language (3)***
The nature and varieties of linguistic meaning; signs and symbols; speech acts criteria of meaningfulness.

16:730:575 ***Seminar in Philosophy of Mind (3)***
Contemporary discussions of cognitive and noncognitive mental activities and their influences on behavior; analyses of self-knowledge and self-deception; theories of mind-body identity.

16:730:580 ***Seminar in Ethics (3)***
Typically concerned with several philosophers (e.g., Aristotle, Hume, Kant, Mill) or problems, such as rights, justice, virtue, relativism, nihilism, and utilitarianism.

16:730:583 ***Seminar in Social and Political Philosophy (3)***
Some recent philosophical theories and their relevance to contemporary issues in social science and politics.

16:730:585 ***Seminar in Philosophy of Law (3)***
The concept of law and criteria of legal validity. Relation of these issues to questions of political obligation and the limits of judicial discretion.

16:730:590 ***Seminar in Aesthetics (3)***
Study of representation, interpretation, and evaluation. The definition and the ontology of art; expressive properties, artistic qualities, and metaphorical expressions.

16:730:595 ***Proseminar in Philosophy (3)***
Episodes in the history of analytic philosophy as background to several important contemporary debates; widely used conceptual tools and argumentative strategies.

16:730:601,602 ***Special Studies in Philosophy (BA,BA)***

16:730:612 ***Topics in Ethics (3)***
Survey of a variety of topics in Ethics.

16:730:620 ***Advanced Topics in Plato (3)***
Intensive study of selected dialogues or topics in Plato's philosophy.

16:730:621 ***Advanced Topics in Aristotle (3)***
Intensive study of selected works or topics in Aristotle's philosophy.

16:730:624 ***Advanced Topics in Ancient Philosophy (3)***
Detailed examination of selected central issues or writers, such as Parmenides and the early pluralists, theories of language, early Stoics, and Ancient Scepticism.

16:730:626 ***Advanced Topics in Medieval Philosophy (3)***
Detailed examination of selected central topics in metaphysics, philosophy of nature, and epistemology. Readings in translations from original sources.

16:730:630 ***Advanced Topics in 17th-Century Philosophy (3)***
Detailed examination of a problem, such as Descartes' theory of method, Spinoza's doctrine of substance and attributes, or controversies about the nature of time and space.

16:730:633 ***Advanced Topics in 18th-Century Philosophy (3)***
Detailed examination of a problem (e.g., Berkeley's and Hume's attack on abstract ideas, Kant's refutation of idealism, issues in the theory of perception).

16:730:636 ***Advanced Topics in 19th-Century Philosophy (3)***
Post-Kantian philosophy from Fichte to Nietzsche. The new social sciences; theories of interpretation; anticipations of 20th-century philosophy.

16:730:640 ***Advanced Topics in American Philosophy (3)***
Examination of major American philosophers (e.g., Peirce, James, Royce) or movements (e.g., pragmatism, the "New Realists").

16:730:648 ***Advanced Topics in Analytic Philosophy (3)***
Writings of such authors as Russell, Moore, Carnap, Wittgenstein, Ryle, and Strawson.

16:730:650 ***Advanced Topics in Epistemology (3)***
Detailed examination of selected central issues or writers, such as scepticism, causal theories of perception and knowledge, epistemic rationality, and Wittgenstein's *On Certainty*.

16:730:653 ***Advanced Topics in Metaphysics (3)***
Intensive examination of one or two selected issues in contemporary metaphysics.

16:730:656 ***Advanced Topics in Philosophy of Science (3)***
Intensive examination of one or two selected issues in contemporary philosophy of science.

16:730:658 ***Advanced Topics in Philosophy of Physics (3)***
Philosophical issues related to particular areas of both classical and modern physics. Discussions of relativity and quantum theory.

16:730:664 ***Advanced Topics in Philosophy of Social Science (3)***
Intensive examination of one or two selected issues in contemporary philosophy of social science.

16:730:667 ***Advanced Topics in Philosophy of History (3)***
Conceptions of historical knowledge from the early 19th century to the present; explanation and understanding; narration and description in historical writings; limits of historical understanding.

16:730:670 ***Advanced Topics in Philosophy of Language (3)***
Intensive examination of one or two selected issues in contemporary philosophy of language.

16:730:675 ***Advanced Topics in Philosophy of Mind (3)***
Intensive examination of one or two selected issues in contemporary philosophy of mind.

16:730:676 ***Advanced Topics in Philosophy of Psychology (3)***
Examination of selected topics in the philosophy of psychology, focusing especially on issues in the foundations of cognitive/computational psychology. Topics include representationalism, learnability theory, and the innateness controversy.

16:730:678 ***Advanced Topics in Decision Theory (3)***
The logic of choice and of action; valuation and probability; risk and uncertainty; coherence and rationality. Survey of current theories and of outstanding problems.

16:730:679 ***Topics in Logic (3)***
Survey of a variety of topics in logic.

16:730:680 ***Advanced Topics in Ethics (3)***
Intensive examination of one or two selected issues in contemporary ethics.

16:730:683 ***Advanced Topics in Social and Political Philosophy (3)***
Intensive examination of one or two selected issues in contemporary social and political philosophy.

16:730:685 ***Advanced Topics in Philosophy of Law (3)***
Limits of state authority in the context of criminal law. Conduct beyond criminal sanction. Discussions of paternalism, obscenity, negligence, strict liability, mistake, excuses, justifications, and harm.

16:730:690 ***Advanced Topics in Aesthetics (3)***
Study of representation, interpretation, and evaluation. The definition and ontology of art; expressive properties, artistic qualities, and metaphorical expressions.

16:730:691 ***Third-Year Seminar in Philosophy (3)***
Teaches graduate students how to write clear, concise, and tightly-argued papers that are publishable in a leading peer-reviewed journal. Focused around rigorous and critical feedback on papers written by the graduate students in the seminar.

16:730:693 ***Advanced Topics in Philosophy of Religion (3)***
Detailed examination of a problem in contemporary literature, such as divine omniscience, religion and morality, problem of evil, and the nature of religious belief.

16:730:695 ***Dissertation Seminar (3)***
Advanced seminar in which students present their dissertation research.
Open only to upper-level Ph.D. students in philosophy.

16:730:701,702 ***Research in Philosophy (BA,BA)***

Philosophy 730 (SGS-PHIL)

Application Requirements

Application Requirements

To apply for the Ph.D. program, you must have a bachelor's degree or its equivalent in hand, or expected by the time you begin the program. **Like most other Departments, we have moved to make GRE's optional, and a large proportion of our recent applicants have not submitted GRE scores. Submission of GRE's is genuinely optional, and non-submission will not be held against your application.

All applications must be submitted electronically. You can submit your application through the portal here. You will be asked to upload your application form, GRE scores (optional), unofficial transcripts, a personal statement of roughly 300-500 words, a CV, and a writing sample, which should ideally be between 4,500 and 7, 500 words. You will also be asked for three letters of reference which must be submitted electronically by the due date. Find the Rutgers Graduate Admissions website here.

Please note that international students do not need to send us financial guarantee information (unless they are accompanied by a spouse or children) since all students admitted to the philosophy Ph.D. program receive enough financial support from Rutgers to satisfy the financial guarantee requirements.

Philosophy 730 (SGS-PHIL)

Admission Deadlines

Admission Deadlines

List of Core Courses

List of Core Courses

Course Requirements

Graduate students must complete the following courses, at the graduate level, with an overall average of at least B+:

- The Proseminar (in the Fall of the first year)
- A logic course
- 7 Research-Paper Courses that fulfill the distribution requirements below
- 5 Non-Research Paper Courses
- The Third-Year Paper Seminar
- The Dissertation Seminar

  Graduate Program Course Requirements
  Graduate students must complete the following courses, at the graduate level, with an overall average of at least B+:
  - The Proseminar (in the Fall of the first year)
  - A logic course
  - 7 Research-Paper Courses that fulfill the distribution requirements below
  - 5 Non-Research Paper Courses
  - The Third-Year Paper Seminar
  - The Dissertation Seminar

  Explanation of Course types
  Students may elect to take any Rutgers Philosophy Seminar as either a Research-Paper course or a Non-Research-Paper course (except for courses used to fulfill the logic requirement). Detailed requirements for these are listed below.
  5 Non-Research-Paper Courses: When a seminar is taken as a Non-Research-paper course, the student will not be required to complete a substantial research paper or equivalent. Instead, students will complete one written assignment, chosen at the discretion of the course instructor, and due by the end of the exam period. This assignment could be a 3000 word writing assignment or its equivalent. The student must also complete all other requirements for the course, including attendance, readings, participation, etc. The details are up to instructor discretion; the goal is that a course taken for non-research credit will require roughly half as much writing as a course taken for research credit, but that the students will keep up with the reading and participate fully in the course.

  Students must inform instructor that the course will be taken as non-research-paper course prior to exam period. Instructors will assign grades at the end of semester. Non- Research-Paper Courses will not count towards distribution requirements.

7 Research-Paper Courses: When a student takes a seminar as a Research-Paper Course, the student will complete a traditional research paper or the equivalent, such as some combination of shorter papers or papers and presentations. Students must inform instructor that course will be taken as Research-Paper Course prior to exam period. Due date policies are determined by the instructor. These courses must satisfy the distribution requirements listed below.

- **Research-Paper Distribution Requirements**
  •Two history seminars (typically, one pre-modern, one early modern).
  • One value theory course (normative ethics, metaethics; aesthetics; social, political, or legal philosophy; or applied issues in these fields)
  •Three seminars selected from three of the following subjects: (i) philosophy of mind, (ii) philosophy of language, (iii) metaphysics, (iv) epistemology, (v) one course in value theory, typically in a sub-area distinct from that taken to satisfy the value theory course, and (vi) philosophy of science

Third-Year Paper Seminar: In this seminar, each student will polish a single paper (perhaps previously drafted) into publishable form. The seminar is designed to facilitate completion of the Third-Year Paper requirement (listed below), and should be taken in the third year (normally in the fall semester). It is a "work-in-progress" seminar, similar to the Dissertation Seminar, in which students give feedback on each other's papers. The instructor may recruit other faculty members to participate in some of the seminar meetings.

Dissertation Seminar: A dissertation seminar is offered in the Spring. Before actively pursuing a full-time teaching position, students are expected to enroll in the dissertation seminar at least once, but may take it as often as they like while writing the dissertation. Each week, the seminar will focus on a chapter from a different student's dissertation. Although the faculty member leading the discussion and the other participants may not be experts in a given student's field, they will be able to provide useful feedback of other sorts.The main goals of the seminar are: (i) to help students learn to write more clearly and (insofar as the subject matter allows) simply; (ii) to promote facility in explaining the central ideas of their research to philosophers who are not working in their area; and (iii) to convey general departmental and university expectations about the structure of a dissertation.

Courses at other Universities: With permission of the Graduate Director, students may take courses at other universities (there is a regular exchange with Princeton, NYU, Columbia And CUNY Graduate Center via the Inter-University Doctoral Consortium). With the approval of the Graduate Director, students may also receive credit for graduate courses taken prior to admission to the program (transferring no more than 8 courses, or 24 credits). Which sort of credit, and which distribution requirements, are fulfilled for by courses is determined by the Graduate Director on a case-by-case basis.

Additional Requirements:

I**ntroductory Logic Requirement**: It is expected that most incoming students will have taken symbolic logic courses that include translations between natural language and propositional and predicate logic, proof techniques (e.g., natural deduction or truth trees), and the basic concepts of metalogic (e.g., soundness and completeness). First year students without appropriate undergraduate coursework must demonstrate competence in these areas by the end of Fall semester, either by taking an exam, by enrollment in a logic course, or by other arrangement with the director of graduate studies.

Third-Year Paper: By end of Spring Semester of the third year, students must submit a Third-Year paper.

This paper should be well polished, and of high enough quality to be published in a well-respected journal. This paper may be one written or begun previously, but it must see substantial revisions during the course of the third-year paper seminar (see above). Completion of this paper is a requirement for becoming a doctoral candidate. Final versions of this paper will be submitted to the instructor of the third-year paper seminar at the end of Spring semester of the student's third year.

Dissertation Proposal Defense: The student forms a pre-dissertation committee of three members, to be approved by the director of graduate studies. With their guidance, the student selects a dissertation topic or project and can either write a review of literature relevant to that topic or a first chapter of the dissertation. After having also written a dissertation proposal, the student then meets with the committee for a proposal defense. Upon approval of the proposal by the committee the student advances to candidacy.

Research in Philosophy Credits: Students must sign up for 24 credits of "Research In Philosophy" following the completion of 48 credits of coursework.
Dissertation: The student forms a dissertation committee (approved by his or her advisor and the director of graduate studies) consisting of at least three Rutgers philosophers (at least two of whom must be regular members of the department; others may be associates of the philosophy department based in another Rutgers department such as linguistics, psychology, or classics); students are strongly encouraged to include additionally a committee member from another university. The dissertation is a substantial piece of research. It may consist of a number of papers on related issues, together with an introduction that describes the ways in which the topic of the papers are interconnected or linked with broader problems; or a more sustained book length treatment of a single issue. The dissertation must be successfully defended (all members of the committee must accept it).

- **Timetable for Satisfactory Progress:**

  Year 1 At least 6 Rutgers courses taken, including 4 Research Papers, and coursework completed on schedule.
  Year 2 At least 12 courses taken and coursework completed on schedule; at least 8 of these courses must be research paper courses.
  Year 3 All course requirements (except Dissertation Seminar) completed by end of grading period, Spring semester. Third-Year Paper completed.
  Year 4 Dissertation proposal accepted by March 15.

Physics and Astronomy 750 (SGS-PHYSASTRO)

PHYSICS AND ASTRONOMY 750

Please visit the Physics and Astronomy website.

Degree Programs Offered: M.S., M.S. for Teachers, Ph.D.

Program Description

The graduate program is designed to give students a broad understanding of classical and modern physics, with intensive training in one of the frontier areas of modern research.

The Master of Science - Quantum Science track provides students with a foundation in the modern principles and practical application of Quantum Science, including Quantum Materials, Quantum Computation, Quantum information, and Quantum Sensing, combined with summer internships for hands on training opportunities.

The Ph.D. program requires a thesis of original research, to give the students experience in advancing themselves to the leading edge of an important area of physics. Students are encouraged to study several sub-disciplines of physics so that they will be prepared to apply their fundamental knowledge beyond the field of their thesis work.

Faculty

Eva Andrei, Ph.D., Rutgers

Natan Andrei, Ph.D., Princeton

Andrew Baker, Ph.D., California Insitute of Technology

Thomas Banks, Ph.D., Massachusetts Institute of Technology

Robert Bartynski, Ph.D., Pennsylvania

Gyan Bhanot, Ph.D., Cornell

Girsh Blumberg, Ph.D., Stanford

Alyson Brooks, Ph.D., Washington

Matthew Buckley, Ph.D., California (Berkeley)

Blakesley Burkhart, Ph.D., Wisconsin (Madison)

Jak Chakalian, Ph.D., British Columbia

Srivatsan Chakram Sundar, Ph.D., Cornell

Premala Chandra, Ph.D., California (Santa Barbara)

Shaowen Chen, Ph.D., Columbia

Sang-Wook Cheong, Ph.D., California (Los Angeles)

John Paul Chou, Ph.D., Harvard

Jolie Cizewski, Ph.D., SUNY (Stony Brook)

Geraldine Cochran, Ph.D., Florida International

Morrel Cohen, Ph.D., Princeton

Piers Coleman, Ph.D., Princeton

Duiliu-Emanuel Diaconescu, Ph.D., Rutgers

Paul Falkowski, Ph.D., British Columbia

Daniel Friedan, Ph.D., California (Berkeley)

Eric Garfunkel, Ph.D., California (Berkeley)

Eric Gawiser, Ph. D., California (Berkeley)

Yuri Gershtein, Ph.D., Moscow

Ronald Gilman, Ph.D., Pennsylvania

Gerald Goldin, Ph.D., Princeton

Sheldon Goldstein, Ph.D., Yeshiva

Eva Halkiadakis, Ph.D., Rutgers

Kristjan Haule, Ph.D., Ljubljana

Jane Hinch, Ph.D., Cambridge

John Hughes, Ph.D., Columbia

Saurabh Jha, Ph. D., Harvard

Charles Keeton, Ph.D., Harvard

Hossein Khiabanian, Ph.D., Brown

Valery Kiryukhin, Ph.D., Princeton

B. Gabriel Kotliar, Ph.D., Princeton

Amitabh Lath, Ph.D., Massachusetts Insitute of Technology

Joel Lebowitz, Ph.D., Syracuse

Sang-Hyuk Lee, Ph.D., New York University

Sergei Lukyanov, Ph.D., Landau

Michael Manhart, Ph.D., Rutgers

Andrew Mastbaum, Ph.D., Pennsylvania

Kristen McQuinn, Ph.D., Minnesota

Gregory Moore, Ph.D., Harvard

Alexandre Morozov, Ph.D., Washington

Daniel Murnick, Ph.D., Massachusetts Institute of Technology

Vikas Nanda, Ph.D., Johns Hopkins

Herbert Neuberger, Ph.D., Tel Aviv

Seongshik Oh, Ph. D., Illinois (Urbana)

Wilma Olson, Ph.D., Stanford

Jedediah Pixley, Ph.D., Rice

Vitaly Podzorov, Ph.D., Rutgers

Karin Rabe, Ph.D., Massachusetts Institute of Technology

Sylvie Rangan, Ph.D., Paris VI

Ronald Ransome, Ph.D., Texas (Austin)

Joseph Reichert, Ph.D., Pennsylvania

Ananda Roy, Ph.D., Yale

Charles Ruggieri, Ph.D., Rutgers

Sevil Salur, Ph.D, Yale

Anirvan Sengupta, Ph.D., Tata (India)

David Shih, Ph.D., Princeton

Troy Shinbrot, Ph.D., Maryland

Avraham Soffer, Ph.D., Tel Aviv

Sunil Somalwar, Ph.D., Chicago

Scott Thomas, Ph.D. Texas (Austin)

David Vanderbilt, Ph.D., Massachusetts Institute of Technology

Weida Wu, Ph.D., Princeton

Emil Yuzbashyan, Ph.D., Princeton

Shiwei Zhang, Ph.D., Cornell

Frank Zimmermann, Ph.D., Cornell

Physics and Astronomy 750 (SGS-PHYSASTRO)

Degree Requirements

Degree Requirements

The Physics and Astronomy program expects Ph.D. students to pass a core set of 6 physics or 5 astronomy courses and their Ph.D. qualifier in their first 4 terms in the program to be advanced to candidacy. Students must also pass 4 advanced courses for the physics students or 5 advanced courses for the astronomy students.

General School of Graduate Studies requirements include a minimum of 24 credits of research and 72 total credits for a Ph.D., a minimum if 30 credits with at least 6 research credits for an M.S. with thesis, and a minimum of 30 credits of coursework for an M.S. with essay .

For the final defense for each degree, the Ph.D. or M.S. committee reviews the written dissertation, thesis or essay, the student gives a presentation on the material to the committee, and the student defends the work presented.

Physics and Astronomy 750 (SGS-PHYSASTRO)

Course Descriptions

Course Descriptions

16:750:501 ***Quantum Mechanics (3)***
Historical introduction; waves and wave packets; one-dimensional problems; representation theory; angular momentum and spin; time-dependent and time independent perturbation theory, the WKB approximation; atomic and molecular systems; theory of scattering; semi-classical theory of radiation; Dirac equation. Learning Management System.
Prerequisite: 750:417 Introductory Quantum Mechanics, or equivalent.

16:750:502 ***Quantum Mechanics (3)***
Historical introduction; waves and wave packets; one-dimensional problems; representation theory; angular momentum and spin; time-dependent and time independent perturbation theory, the WKB approximation; atomic and molecular systems; theory of scattering; semi-classical theory of radiation; Dirac equation.
Prerequisite: 750:417 Introductory Quantum Mechanics, or equivalent.

16:750:503 ***Electricity and Magnetism (3)***
Advanced Electromagnetic theory and related mathematical techniques. Boundary value problems in electrostatics and magnetostatics. Complex variables. Green's function, multipole expansions. Maxwell's equations and plane electromagnetic waves; waveguides. Radiation. Detailed discussion of special relativity, including, for example, space-time diagrams, covariance and invariance, twin paradox, uniform acceleration, motion of a charged particle, stress-energy tensors. Radiation by moving charges, bremsstrahlung, multipole fields, radiation damping.
Prerequisites: 750:386 or equivalent.

16:750:504 ***Electricity and Magnetism (3)***
Advanced Electromagnetic theory and related mathematical techniques. Boundary value problems in electrostatics and magnetostatics. Complex variables. Green's function, multipole expansions. Maxwell's equations and plane electromagnetic waves; waveguides. Radiation. Detailed discussion of special relativity, including, for example, space-time diagrams, covariance and invariance, twin paradox, uniform acceleration, motion of a charged particle, stress-energy tensors. Radiation by moving charges, bremsstrahlung, multipole fields, radiation damping. Learning Management System.
Prerequisites: 750:386 or equivalent.

16:750:505 ***Quantum Electronics (3)***
Modern optics; atomic and solid-state phenomena; masers, lasers, theory of amplification, oscillation, coherence; photon correlations; nonlinear optics. Electron and nuclear magnetic resonance. Tunneling phenomena.

16:750:506 ***Modern Experimental Techniques (4)***
Modern instruments and techniques in experimental physics. Topics include passive network theory and transient and steady state response analysis; transmission lines; operational amplifiers; digital circuits; a detailed study of noise; phase sensitive detection, including lock-in amplifiers and signal averagers; low-level measurement techniques, including quantum interference devices; particle detection techniques.

The purpose of this course is to acquire hands-on experience with experimental aspects of modern physics and to deepen your understanding of the relations between experiment and theory. You will carry out experiments which, when first performed, led to seminal discoveries in physics. In the process you will acquire a set of basic skills essential to becoming an experimental scientist. You will learn to use advanced laboratory equipment and will acquire computational skills necessary for data analysis and error estimation. In addition you will acquire the skills to produce credible records of scientific data and you will learn how to disseminate scientific findings through written reports and oral presentations. Learning Management System.
Prerequisites: 750:326 Experimental Physics and 388 Modern Physics Lab, or equivalent.

16:750:507 ***Classical Mechanics (3)***
Advanced classical mechanics, calculus of variations, Hamilton's equations, canonical transformations, Hamilton-Jacobi theory, small oscillations, rigid body motion. Learning Management Systems.
Prerequisites: 750:382 Mechanics and 386 Electromagnetism, or equivalent.

16:750:509 ***Physics Applications of Computers (3)***
This course introduces foundational algorithmic concepts and essential computational tools for graduate students in computational physics. While the examples are primarily drawn from classical and quantum physics, the techniques covered are broadly applicable across STEM disciplines and highly relevant for students pursuing careers in research, data science, or the IT industry. Students will develop proficiency in key computational methods, including large-scale optimization, high-dimensional integration, and the numerical solution of differential equations. These algorithms form the backbone of modern computational physics but are also widely used in engineering, applied mathematics, and quantitative finance.

The primary programming language used in the course is Python, together with its scientific libraries (NumPy, SciPy). To enhance performance and expose students to low-level optimization strategies, selected examples will incorporate C++ (via pybind11) and Fortran90 (via f2py), interfaced through Python. Learning Management System.

No specific prerequisites are required beyond basic programming experience. The course is intended for students eager to expand their computational toolkit and gain hands-on experience with widely used numerical techniques. Students are encouraged to bring their own laptops for homework and in-class exercises.

16:750:511 ***Topics in Mathematical Physics (3)***
Functions of a complex variable, contour integration, calculus of residues, conformal mapping with applications to electrostatics, magnetostatics and fluid dynamics in two dimensions. Solution of boundary-value problems of physics by integral equation methods, construction of Green's functions. Fourier and Laplace transform theory with

applications to harmonic motion, electrostatics, heat conduction, circuits and transients. Learning Management System.
Prerequisites: 640:403 Complex Variables and 640:423 Partial Differential Equations, or equivalent.

16:750:514 ***Radiative Processes (3)***
Electromagnetic phenomena in astrophysical systems. Radiative transfer. Radiation from moving charges. Emission mechanisms: Bremsstrahlung, synchrotron, Compton scattering. Plasma effects. Atomic and molecular structure and spectroscopy. Learning Management System.
Prerequisite: 750:503 Electricity and Magnetism.

16:750:523 ***Techniques in Experimental Physics (3)***
Not intended for students in the Ph.D. program. Electronics as it is used in experimental physics. Transistors and their equivalent circuits, amplifiers, networks, digital logic, light and particle detectors, low-level measurements, including quantum interference devices.
Prerequisite: Elementary physics laboratory.

16:750:524 ***Topics in Physics (3)***
Not intended for students in the Ph.D. program. Self-paced course in which the student studies independently and the faculty act as tutors, providing help as needed and administering examinations. Subject matter divided into units, covering a wide range of subjects drawn from classical and modern physics. Units chosen in consultation with an adviser, taking into account the background and interests of each student.

16:750:541 ***Stars and Star Formation (3)***
Observed properties of stars. The internal structure of stars, energy generation and transport, neutrinos, solar oscillations. The evolution of isolated and double stars, red giants, white dwarfs, variable stars, supernovae. Challenges presented by the formation of stars, the importance of magnetic fields. Pre-main sequence stellar evolution.

We will study the observed properties and physics of stars, including their internal structure, energy generation and transport, and their atmospheres. We will examine star formation, stellar evolution, and stellar remnants, including white dwarfs, neutron stars, and black holes. Learning Management System.

16:750:543 ***Galaxies and the Milky Way (3)***
Properties of galaxies; photometry, kinematics, and masses. Disk galaxies, spiral patterns, bars and warps, gas content, star formation rates, chemical evolution. Elliptical galaxies: shapes. Structure of the Milky Way. The nature of dark matter.

Galaxies are an important nexus in the cosmic hierarchy: they serve as lighthouses marking out the vast cosmic structures that can span many millions of parsecs, but are fascinating in themselves as laboratories for the "small scale" processes of stellar birth and evolution. We now have images of billions of galaxies, and can observe them from a time less than a billion years after the Big Bang until the present day. We can study not only the appearance or "morphology" of galaxies, but also in some cases measure properties of their stellar populations, their quota of heavy elements, their gas content, and the internal motions (or kinematics) of their stars and gas. Although galaxies exhibit amazing diversity, they also conform to certain surprisingly tight correlations. From kinematic measurements, we can infer that galaxies contain a major unseen component that influences the motions of their stars and gas: the mysterious "dark matter". Moreover, the stars and gas that we can measure within galaxies falls far short of what we would expect for the cosmic "baryon budget". The study of modern galaxy formation focuses

on trying to understand the observed demographics and correlations of galaxy properties and how these evolve over cosmic time, in the context of the "hierarchical structure formation" picture provided by the Cold Dark Matter theory.

In this course, we will warm up with a brief review of stars and radiative processes and basic cosmology. We will start our study of galaxies with our home Galaxy, the Milky Way, our sister galaxy M31 (Andromeda), and our smaller companions the Local Group dwarfs. Even this relatively small population of galaxies in our own "backyard" poses a number of unsolved puzzles. We will then cover the properties of spiral, lenticular, and elliptical galaxies in the 'nearby' Universe, and discuss the larger structures that form galaxy habitats: groups and clusters. One fascinating open question is whether galaxy properties are mainly shaped by "internal" processes or by their environment. We will discuss the evidence that many or even most galaxies harbor supermassive black holes in their nuclei. We will wind up the course with a discussion of how we can find and observe extremely distant (high redshift) galaxies, and of how galaxies were different in the past. Learning Management System.

16:750:551 ***Development of Ideas in Physical Science (3)***
The epistemology of physics; the construction of knowledge; how physicists know what they know.
Prerequisite: Permission of instructor.

16:750:552 ***Teaching of Physical Science (3)***
Pedagogical content knowledge and skills; techniques for planning and assessment.
Prerequisite: Permission of instructor.

16:750:553 ***Multiple Representations in Physical Science (3)***
Multiple representation method used in constructing concepts and problem solving.
Prerequisite: Permission of instructor.

16:750:563 ***Molecular Simulations in Computational Biology (3)***
Focuses on molecular modeling and simulations of biological macromolecules including proteins and nucleic acids, molecular dynamics and Monte Carlo methods, and solvation. Computer simulations and exercises are an integral part of the course. Also offered as 16:118:513.
Prerequisite: Advanced undergraduate courses in physical chemistry or physics.

16:750:567 ***Physics of Living Matter (3)***
Review of physical phenomena that determine the properties of biological molecules, molecular assemblies, and fundamental biological processes. Also offered as 16:118:507.

This course is designed to introduce biophysics to upper-level physics undergraduate and graduate students. The course will start with a review of big ideas in modern molecular/cellular biology to familiarize physics students with the language used in life science. Thereafter, basic physical principles underling structure and dynamics of macromolecules, such as diffusion, random walks, low Reynolds-number hydrodynamics, entropic force, and osmotic pressure, will be discussed in the light of soft matter physics. Life cannot persist without constant mechanical work of numerous molecular machines inside cells. The working principles of these molecular machines will be studied in more detail through enzyme kinetics and mechano-chemical coupling. Recent developments in biophysical methods that have enabled testing of many physical models in biology will be covered as well. Learning Management System.
Prerequisite: Linear algebra, differential equations, thermodynamics, and classical physics (at the junior level).

16:750:568 ***Large Scale Data Analysis in Physics and Astronomy (3)***
Statistical analysis techniques including probability distributions, maximum likelihood, significance tests, Bayesian statistics, statistical/machine learning, kernel methods and neural networks, with example applications to current large-scale analysis problems in physics and astronomy. Learning Management System.
Prerequisite: 750:501 Quantum Mechanics and 750:507 Classical Mechanics, or permission of the instructor.

16:750:569 ***Advanced Machine Learning and Data Science in Physics and Astronomy (3)***
Advanced topics in modern machine learning, including anomaly detection, generative modeling, explainable AI, and algorithmic bias. Modern machine learning methods and architectures which could include normalizing flows, generative adversarial networks, autoencoders, weak supervision, convolutional neural networks, recurrent neural networks, transformers, score matching, diffusion models. A focus on teaching through hands-on examples derived from current research in physics and astronomy. Learning Management System.
Prerequisite: 16:750:568 or permission of the instructor.

16:750:601 ***Solid-State Physics (3)***
Introduction to: crystal lattices, scattering of radiation, lattice dynamics, electron bands, interaction among elementary excitations, disordered systems, transport properties, superconductivity and super-fluidity, magnetism, crystal-field effects, phase transitions, optical properties. Learning Management System.
Prerequisites: 750:502 and 750:351 or equivalent.

16:750:602 ***Solid-State Physics (3)***
Further exploration of essentials of condensed-matter physics including: screening and dielectric response; optical properties; Fermi liquid theory; density-functional theory; electron dynamics and Boltzmann transport; magnetism; electron-phonon interaction and superconductivity; and the quantum Hall and quantum anomalous Hall effects. Learning Management System.
Prerequisites: 750:502 and 750:351 or equivalent.

16:750:603 ***Solid-State Physics (3)***
Advanced treatment of topics surveyed in 750:601 and their extension to topics of current interest in solid-state physics. Learning Management System.

16:750:605 ***Nuclear Physics (3)***
Survey of essential topics: properties of ground states, shell model, collective model, electromagnetic properties, simple excitations, compound-nucleus and direct reactions, beta decay. Additional topics may include alpha decay, fission, applications of nuclear physics, topics of current interest. Learning Management System.
Prerequisite: 750:502, Quantum Mechanics, or equivalent.

16:750:606 ***Stars and Planets (3)***
Stellar properties, internal structure, energy generation and transport, neutrinos, atmospheres, solar oscillations. Stellar evolution, red giants, white dwarfs, variable stars, supernovae, neutron stars, black holes. Brown dwarfs, planets, extrasolar planets. Learning Management System.
Prerequisites: 750:514 Radiative Processes or 750:504 Electricity and Magnetism II.

16:750:607 ***Galaxies and Galaxy Dynamics (3)***
Properties of galaxies: photometry, structure, kinematics, gas content, chemical evolution. Structure of the Milky Way. Equilibrium, stability, and evolution of stellar systems. Dynamics and evolution of disk galaxies (spiral patterns, bars, warps) and elliptical galaxies. Examples of chaotic astrophysical systems.

In addition to learning about the observed properties of galaxies, and how they evolve over cosmic time, we will also study the modern theory for how galaxies form in the context of the "hierarchical structure formation" picture provided by the Cold Dark Matter theory. Topics that will be covered include: structure formation in the Cold Dark Matter model; galaxy clustering and bias; the Milky Way and the Local Group; demographics of nearby galaxies; galaxies and their environment; interactions and mergers; galaxy evolution over cosmic time; dynamics and stability of galactic disks; dynamics and evolution of elliptical galaxies; black holes and Active Galactic Nuclei. Learning Management System.
Prerequisites: 750:507, Classical Mechanics.

16:750:608 ***Cosmology (3)***
Models of the universe, their fundamental parameters and their estimation from observations. Evolution of the universe from soon after its formation to the present. Growth of structure and the formation of galaxies.

This is a graduate-level course on the origin and evolution of the Universe. Cosmology is a rich field of physics, drawing from astrophysics, gravitation, particle physics, nuclear physics and thermodynamics. The two decades have seen the development of a standard model of cosmology called Lambda Cold Dark Matter (LCDM) which explains a wide array of observed phenomena and has successfully predicted the power spectra of cosmic microwave background and large-scale structure. This class will attempt to highlight the quality of the current match between data and theory. Learning Management System: http://www.physicsmatt.com/physics-608/
Prerequisites: 750:341-342 Principles of Astrophysics or equivalent.

16:750:609 ***Fluid and Plasma Physics (3)***
Fundamental physical properties of liquids, gases, and ionized systems. Includes selected topics from compressible and incompressible flow, electromagnetic interactions, instabilities, turbulence, nonequilibrium phenomena, kinetics, superfluid mechanics, related experimental techniques, and other topics of current interest in fluid and plasma research.

The course will present some aspects of fluid mechanics and the physics of plasmas. While the course has a strong emphasis on applications to astronomy, it should be of value to students in all walks of physics and applications in other areas will creep in from time to time. All students with PhD research projects in astronomy should take this course. No graduate level astronomy courses are required as background, but the course will assume standard graduate level preparation in physics. Learning Management System: http://www.physics.rutgers.edu/grad/609/.
Prerequisites: 750:507 or equivalent.

16:750:610 ***Interstellar Matter (3)***
"Structure of the interstellar medium: its molecular, neutral atomic, and plasma phases. Radiative transfer, dust, particle acceleration, magnetic Fields, and cosmic rays. Effects of supernovae, shock fronts, and star formation."

I plan to broaden this list of topics to include the intergalactic medium; in general, I will try to highlight subjects that are important to areas of current research in extragalactic astrophysics and cosmology (e.g., galaxy formation, the enrichment of the intergalactic medium, and the reionization of the universe). Learning Management System: http://www.physics.rutgers.edu/grad/610/.
Prerequisite: 750:541 or equivalent. Structure of the inter-stellar medium: its molecular, neutral atomic and plasma phases. Radiative transfer, dust, particle acceleration, magnetic fields and cosmic rays. Effects of supernovae, shock fronts and star formation.

16:750:611 ***Statistical Mechanics (3)***
Statistical methods and probability; the statistical basis for irreversibility and equilibrium; ensemble theory; statistical thermodynamics; classical and quantum statistics; the density matrix; applications of statistical mechanics to non-ideal gases, condensed matter, nuclei and astrophysics; fluctuations, non-equilibrium statistical mechanics; kinetic theory. Learning Management System: http://www.physics.rutgers.edu/grad/611/.
Prerequisites: 750:501, 502, Quantum Mechanics, 507 Classical Mechanics.

16:750:612 ***High-Energy Astrophysics (3)***
The origin and detection of high energy photons and particles in the universe. Radiation processes in low density media. Sites of high energy phenomena in astrophysics, such as supernovae, pulsars, active galactic nuclei and quasars and processes such as accretion and shocks.

The Universe is filled with diverse objects and phenomena ranging from those with very low characteristic temperatures, such as the 2.7 K Cosmic Microwave Background Radiation, to the ultrahigh energy cosmic rays in which a single particle can carry 10 J or more of energy. Accordingly in order to attempt a complete understanding of cosmic objects and events, astrophysicists have been driven to conduct studies over the entire electromagnetic spectrum. In this course, the focus will be on the study of high energy astrophysics, that is to say, the field of astronomy that concerns itself with objects and phenomena having a characteristic temperature greater than about 10^6 K or equivalently 0.1 keV. This includes the X-ray and gamma-ray bands of the electromagnetic spectrum, cosmic rays, and neutrinos from the Sun and supernovae. The field is relatively new: cosmic rays were discovered in 1912 (although not explained as high energy particles until 1929) and, although, X-rays were discovered by Rongten in 1895, X-ray astronomy wasn't born until 1949 when the Sun was discovered as the first extraterrestrial X-ray source. In general the history of X-ray and gamma-ray astronomy has paralleled the history of space exploration. Neutrino astronomy is even younger, commencing with the Homestake gold mine experiment in the 1970's which gave rise to the famous "solar neutrino" problem.

This course is intended to provide the student with sufficient background material and knowledge in order to appreciate current research literature in high energy astrophysics. It will draw on graduate level physics and astronomy as prerequisites. Although the text listed above is required, some course material will be taken from other sources, such as "Radiative Precesses in Astrophysics" by Rybicki and Lightman (Wiley), particularly for lectures on radiative processes. Students might consider looking at the readable book on X-ray astronomy "Exploring the X-ray Universe" by Charles and Seward (Cambridge). Learning Management System: http://www.physics.rutgers.edu/grad/612/.
Prerequisite: 750:341-342 or equivalent.

16:750:613 ***Particles (3)***
Assumes knowledge of quantum mechanics, scattering theory, and nuclear spectroscopy. Properties of particles and their interactions based on the standard model of strong and electroweak interactions. Conservation laws. Discussion of specific experiments illustrating the standard model. Learning Management System: http://www.physics.rutgers.edu/grad/613.
Prerequisite: 750:502 Quantum Mechanics, or equivalent. Introduction to the concepts and techniques underlying current research in elementary particles.

16:750:615 ***Overview of Quantum Field Theory (3)***
Lorentz group; relativistic wave-equations; second quantization; global and local symmetries; QED and gauge invariance; spontaneous symmetry breaking; nonabelian gauge theories; Standard Model; Feynman diagrams; cross

sections, decay rates; renormalization group. Learning Management System: http://www.physics.rutgers.edu/grad/615/.
Prerequisite: 750:502 Quantum Mechanics, or equivalent.

16:750:616 ***Fields I (3)***
Path integral quantization; perturbation theory: dimensional regularization, renormalization; the renormalization group; spontaneous symmetry breaking and effective potential; critical behavior of ferromagnets; d field theory; Yang- Mills perturbation theory. Learning Management System: http://www.physics.rutgers.edu/grad/616/.
Prerequisite: 750:615 Advanced Quantum Mechanics.

16:750:617 ***General Theory of Relativity (3)***
Equivalence principle, tensor analysis with differential forms; review of special relativity and electromagnetism; affine connection and geodesic equation; curvature and geodesic deviation; Einstein field equations; Schwarzschild and Kerr solutions, homogeneous isotropic cosmologies; experimental and observational tests.

Additional texts that may be of use to students are General Relativity by Robert Wald and Gravitation by Misner, Thorne, and Wheeler (i.e. the giant black book about gravity). Neither are required for the course. Learning Management System: http://www.physics.rutgers.edu/grad/617.
Prerequisites: 750:507, Classical Mechanics, or equivalent, 504 Electricity and Magnetism.

16:750:618 ***Applied Group Theory (3)***
Abstract groups and their representations, finite groups and Lie algebras; symmetries and currents; symmetric group, inhomogeneous Lorentz group, SU(n); classification of Lie algebras, Dynkin diagrams. Spontaneous symmetry breaking mechanisms. Gauge theories.

This is a course on group theory primarily intended for physics graduate students intending to specialize in condensed matter or particle theory. It will also have material of interest to mathematics students with some interest in mathematical physics. A more detailed course description of a past incarnation can be found here. Learning Management System: http://www.physics.rutgers.edu/~gmoore/618Spring2019/GroupTheory-Spring2019.html.
Prerequisite: 750:502 Quantum Mechanics, or equivalent.

16:750:619 ***Fields II (3)***
Renormalization group applied to Yang- Mills: asymptotic freedom; spontaneous symmetry breaking applied to Yang- Mills: Weinberg-Salam theory; lattice gauge theory; grand unified theories; supersymmetry; strings. Learning Management System: http://www.physics.rutgers.edu/grad/619/
Prerequisite: 16:750:616 Fields I.

16:750:620 ***Introduction to Many-Body Theory (3)****
Hartree-Fock and Thomas-Fermi methods, elementary excitations, theory of the Fermi liquid, properties of liquid helium; many-body perturbation theory at zero and finite temperature, statistical mechanics of many-particle systems, Green's function techniques, systems of interacting bosons and fermions, collective modes, theory of superconductivity and superfluidity, properties of nuclear matter. (A second semester of Many-Body Problems is available, temporarily listed as 682 Advanced Topics in Condensed Matter.)

Many body physics provides the framework for understanding the collective behavior of vast assemblies of interacting particles. This course provides an introduction to this field, introducing you to the main techniques and concepts, aiming to give you first-hand experience in calculations and problem solving using these methods. Learning Management System: http://www.physics.rutgers.edu/grad/620/. (*)
Prerequisite: 750:502 Quantum Mechanics, or equivalent.

16:750:621 ***Advanced Many-Body Physics (3)***
Theory of superconductivity and superfluidity. Application of the renormalization group to many-body problems. One-dimensional electron gas. Kondo problem and heavy fermions. Learning Management System: https://www.physics.rutgers.edu/grad/621.
Prerequisite: 16:750:620 or equivalent. Systems of interacting bosons and fermions.

16:750:623 ***Advanced Studies in Physics (3)***
Individual studies supervised by a member of the staff.
Prerequisite: Consent of Graduate Director.

16:750:624 ***Advanced Studies in Physics (3)***
Individual studies supervised by a member of the staff.
Prerequisite: Consent of Graduate Director.

16:750:627 ***Surface Science I (3)***
Introduction to structure and dynamics of clean surfaces, atoms and molecules on surfaces, and interfaces. Topics include: atomistic description of geometrical structure, surface morphology, electronic structure, surface composition, and theoretical and experimental bases of modern experimental methods.

The purpose of the course is to acquaint students in physics, chemistry, materials science and electrical engineering with the static and dynamic behavior of clean and adsorbate-covered solid surfaces and interfaces, from both theoretical and experimental points of view. Topics will include geometrical structure, surface morphology, electronic structure, surface composition, kinetics and dynamics (adsorption, scattering, vibrations, diffusion, desorption), structure and reactivity of surface molecules, non-thermal excitations of surfaces, catalysis and surface reactions. We will discuss surfaces of metals, oxides and semiconductors, as well as solid-solid and solid-liquid interfaces. Modern ultrahigh vacuum experimental methods will be discussed: theoretical basis, experimental aspects, and data interpretation. Topical lectures by guest lecturers addressing thin films, nanostructures and low-dimensional systems will also be offered. Learning Management System: http://www.physics.rutgers.edu/grad/627/.

16:750:628 ***Surface Science II (3)***
Kinetics and dynamics of processes at surfaces; structure and reactivity of molecules at surfaces; thermal and non-thermal excitations; magnetic properties. Surfaces of metals, oxides and semiconductors, as well as solid-solid and solid-liquid interfaces.

16:750:629 ***Observational Techniques (3)***
Introduction to tools and techniques of modern observational astronomy. Survey of instruments and capabilities at current telescope sites around the world and in space. Data reduction methods. Practical experience with Serin Observatory. Learning Management System: http://www.physics.rutgers.edu/grad/629/
Prerequisite: 750:541 Introductory Astrophysics or equivalent.

16:750:633 ***Seminar in Physics (1)***
This Seminar presents faculty of the Physics and Astronomy program discussing their current research. All first-year graduate students are expected to attend -- attendance is taken -- and everyone else is welcome. Learning Management System: http://www.physics.rutgers.edu/grad/633/.
Prerequisite: Permission of graduate director. Seminars in fields of investigation of current interest.

16:750:634 ***Seminar in Physics (1)***
Seminars in fields of investigation of current interest.

This Seminar presents faculty of the Physics and Astronomy program discussing their current research. All first-year graduate students are expected to attend -- attendance is taken -- and everyone else is welcome. Learning Management System: http://www.physics.rutgers.edu/grad/634/.
Prerequisite: Permission of graduate director.

16:750:636 ***Basics of Teaching Physics (1)***
Topics include teaching goals, results of recent research, lecturing, demonstrations, teaching problem solving, testing, active learning, course development, and teaching difficult concepts in selected areas of physics. Instructor observes the student teaching.

The courses may be taken in any order. Offered in alternate years.
Prerequisite: Permission of instructor. Concurrent teaching assignment in physics or astronomy recommended. Intended for graduate students interested in improving their skills for teaching physics.

16:750:637 ***Basics of Teaching Physics (1)***
Intended for graduate students interested in improving their skills for teaching physics. Topics include teaching goals, results of recent research, lecturing, demonstrations, teaching problem solving, testing, active learning, course development, and teaching difficult concepts in selected areas of physics. Instructor observes the student teaching.

The courses may be taken in any order. Offered in alternate years.
Prerequisite: Permission of instructor. Concurrent teaching assignment in physics or astronomy recommended.

16:750:677 ***Advanced Topics in Statistical Mechanics and Biological Physics I and II (3)***
Topics covered: time evolution of stochastic systems (master equation, Fokker-Planck, Langevin) with applications in physics, quantitative biology, and beyond. Stochastic calculus; first-passage problems; non-equilibrium thermodynamics of mesoscopic systems; fluctuation theorems and other exact results in modern statistical mechanics; spin glasses. Learning Management System: https://www.physics.rutgers.edu/grad/677.
Prerequisite: 750:611 Statistical Mechanics, or equivalent.

16:750:678 ***Advanced Topics in Statistical Mechanics and Biological Physics I and II (3)***
Learning Management System: http://www.physics.rutgers.edu/grad/677/.

16:750:681 ***Advanced Topics in Solid-State Physics (3)***
This course will provide an introduction to strongly correlated electron systems. There will be a lot of discussion and interaction. Starting with a path-integral approach to many body physics, we will discuss broken symmetry in magnetism and superconductivity, going on to discuss an isotropic superconductivity, local moment formation, the Kondo Lattice and the physics of heavy fermion materials and quantum criticality. We will end with a discussion of

topological matter, including the quantum Hall effect and the strong topological insulator. The course will be based in part on the last seven chapters of my book, "Introduction to Many-Body Physics". Learning Management System: http://www.physics.rutgers.edu/grad/681/.

16:750:682 ***Advanced Topics in Solid-State Physics (3)***
This course will provide an introduction to strongly correlated electron systems. There will be a lot of discussion and interaction. Starting with a path-integral approach to many body physics, we will discuss broken symmetry in magnetism and superconductivity, going on to discuss an isotropic superconductivity, local moment formation, the Kondo Lattice and the physics of heavy fermion materials and quantum criticality. We will end with a discussion of topological matter, including the quantum Hall effect and the strong topological insulator. The course will be based in part on the last seven chapters of my book, "Introduction to Many-Body Physics". Learning Management System: http://www.physics.rutgers.edu/grad/682/.

16:750:685 ***Advanced Topics in Nuclear Physics (3)***

16:750:686 ***Advanced Topics in Nuclear Physics (3)***

16:750:689 ***Advanced Topics in Astrophysics (3)***
Gravitational lensing has matured into a thriving area of astrophysics, with applications across a wide range of scales and redshifts. The goals for this course are as follows:

- Understand the theory and phenomenology of gravitational lensing.
- Gain experience with quantitative aspects of lensing.
- Examine a variety of astrophysical applications of lensing.

We will develop the analytic theory as much as possible and consider computational approaches as appropriate. Some of the applications we will discuss include: properties of stars, planets, and stellar remnants; physical properties of galaxies; dark matter in galaxies and clusters of galaxies; structure of high-redshift galaxies and quasars; cosmological parameters.

This is an advanced graduate course designed for students pursuing research in physics and astronomy. Undergraduate physics and mathematics should provide adequate preparation. Familiarity with intermediate classical mechanics, electrodynamics, and quantum mechanics are helpful, as much of the mathematics encountered in those subjects applies to lensing. Learning Management System: http://www.physics.rutgers.edu/grad/689/.

16:750:690 ***Advanced Topics in Astrophysics (3)***
The last decade has witnessed a revolution in our cosmological understanding: multiple lines of evidence show that we live in a Universe dominated by the effects of dark energy and dark matter. Characterizing the properties of these components is the frontier of current research. In this seminar, we will trace the development of these dark components in the standard cosmological model. We will also discuss current and proposed experiments to constrain the nature of dark matter and dark energy, and explore potential alternatives to the standard paradigm.

With quantum fluctuations in the early universe seeding superclusters and voids today, particle dark matter halos shaping and supporting galaxies, and vacuum energy driving the accelerating expansion, modern cosmology directly connects physics at the largest and smallest scales. As such, this course is broadly aimed to engage graduate students across physics, enabling a synthesis of observational, experimental, and theoretical results.

The course will have a reading/seminar format. We will meet weekly to discuss a few (~4) important papers on a specific topic, and two students will be assigned to lead the presentation for that week. Learning Management System: http://www.physics.rutgers.edu/grad/690/

16:750:693 ***Advanced Topics in High Energy Physics (3)***
Learning Management System: http://www.physics.rutgers.edu/grad/693/

16:750:694 ***Advanced Topics in High Energy Physics (3)***
This is a special topics seminar aimed at 1st and 2nd year graduate students who intend to pursue a Ph.D. in experimental particle physics. The course is intended to bridge the gap in knowledge between formal theoretical physics (i.e. QFT) and experimental practice. Particle interactions in matter and detector techniques will be emphasized in relation to the historic development of our understanding of fundamental physics. Students will be expected to do the reading and associated problems prior to class, where the readings will be discussed in a seminar-style format. Learning Management System: http://www.physics.rutgers.edu/grad/694/.

16:750:695 ***Advanced Topics in Math Physics (3)***
The past 20 years have been an exciting time for the interaction of mathematics and physics. Remarkable new mathematical discoveries have been made using the methods of quantum field theory. Conversely, powerful new mathematical techniques have been successfully applied to gain nontrivial insights in sophisticated theories like supersymmetric gauge theories and string theory.

The purpose of this course is to provide some of the mathematical background which one needs in order to learn about these modern developments. The course surveys some aspects of topology and differential geometry of manifolds, with an emphasis on relations to modern mathematical physics. The course will also cover some aspects of supersymmetry.

This course is primarily intended for physics graduate students specializing in theoretical physics.

Some knowledge of manifolds, differential forms, and cohomology will be assumed, but we will try to keep the course material self-contained. Learning Management System: http://www.physics.rutgers.edu/grad/695/gmp2001_announce.html

16:750:699 ***Non-Thesis Study (1)***

16:750:701 ***Research in Physics (By Arrangement)***

16:750:702 ***Research in Physics (By Arrangement)***

Application Requirements

Application Requirements

- Online application
- $70 nonrefundable application fee
- One official transcript from each post-secondary institution attended
- Letters of recommendation, as required by the program
- A personal statement
- Current test results, as required by the program
- Supporting materials, as required by the program
- *The Physics and General GREs are optional for astronomy applicants.*
- *The Physics and General GREs are preferred for physics applicants.*

Physics and Astronomy 750 (SGS-PHYSASTRO)

Admission Deadlines

Admission Deadlines

January 1

Physics and Astronomy 750 (SGS-PHYSASTRO)

List of Core Courses

List of Core Courses

- 501 Quantum Mechanics I
- 502 Quantum Mechanics II
- 503 Electricity and Magnetism
- 504 Electricity and Magnetism
- 506 Exp. in Modern and Applied Physics
- 507 Classical Mechanics
- 509 Physics Application of Computers
- 511 Mathematical Methods for Physicists
- 514 Radiative Processes
- 541 Stars and Star Formation
- 543 Galaxies and the Milky Way
- 567 Biophysics
- 568 Large Scale Data Analysis in Physics and Astronomy
- 569 Advanced Machine Learning and Data Science for Physics and Astronomy
- 601 Solid State Physics I
- 602 Solid State Physics II
- 603 Solid State Physics III
- 605 Nuclear Physics

- 606 Stars & Planets
- 607 Galactic Dynamics
- 608 Cosmology
- 609 Fluids & Plasmas
- 610 Interstellar Matter
- 611 Statistical Mechanics
- 612 High Energy Astrophysics
- 613 Particles
- 615 Overview QFT
- 616 Fields I
- 617 General Relativity
- 618 Group Theory
- 619 Field Theory II
- 620 Many Body Physics
- 621 Many Body Physics II
- 627 Surface and Interface Science
- 629 Observational Techniques
- 633 Seminar in Physics
- 634 Seminar in Physics
- 677 Advanced Topics in Statistical and Biological Physics
- 681 Special Topics in CM Physics
- 682 Special Topics in CM Physics
- 685 Advanced Topics in Nuclear Physics
- 689 Special Topics in Astrophysics
- 690 Advanced Topics in Astrophysics
- 693 Advanced Topics in High Energy Physics
- 694 Advanced Topics in High Energy Physics

Planning and Public Policy 762 (SGS-PPP)

PLANNING AND PUBLIC POLICY 762

See Doctor of Philosophy (Ph.D.) in Planning and Public Policy in the Edward J. Bloustein section of this catalog.

Plant Biology 765 (SGS-PLANTBIO)

PLANT BIOLOGY 765

Degree Programs Offered: M.S., Ph.D.

Please visit the Plant Biology website.

Plant biology graduate program offers multidisciplinary and comprehensive training and education in five curricular and research tracks: Molecular and Cellular Biology/Genomics, Plant Breeding and Genomics, Horticulture and Plant Technology, Plant Pathology, Natural Products and Human Health.

Faculty

Gary, L. Altman, M.S., Rutgers

Sonia Arora, Ph.D., Rutgers

Thierry E. Besancon, Ph.D. North Carolina

Stacy Bonos, Ph.D., Rutgers

Raul Cabrera, California (Davis)

Ming-Yi Chou, Ph.D., Cornell

Rong Di, Ph.D., Iowa State

Edward Francis Durner, Ph.D., North Carolina

Matthew Elmore, Ph.D., Tennessee

Andrea Gallavotti, Ph.D., Milan (Italy)

Joseph Goffreda, Ph.D., Cornell

Arend-Jan Both, Ph.D., Cornell

Ann Brooks Gould, Ph.D., Kentucky

Serpil Guran, Ph.D., Leeds (UK)

Joseph R. Heckman, Ph.D., North Carolina

Bingru Huang, Ph.D., Texax Tech

Hector Rodolfo Juliani, Ph.D.

Donald Kobayashi, Ph.D., California (Riverside)

Eric Lam, Ph.D., California (Berkeley)

Michael Lawton, Ph.D., Oxford (UK)

Xiao-Ping Li, Ph.D. National (Singapore)

Pal Maliga, Ph.D., Hungarian Academy of Sciences (Hungary)

John McLaughlin, Ph.D., Minnesota

Paul Meers, Ph.D., Cornell

Thomas Molnar, Ph.D., Rutgers

Xenia K. Morin, Ph.D., Cornell

James Murphy, Ph.D., North Carolina

Peter Oudemans, Ph.D., California Riverside

Harna Patel, Ph.D., Rutgers

Nrupali Patel, Ph.D. North Carolina

Ilya Raskin, Ph.D., Michigan

Mark Robson, Ph.D., Rutgers

Stephanie Rossi, Ph.D., Rutgers

Gina Sideli, Ph.D., California (Davis)

James Simon, Ph.D., Massachusetts (Amherst)

Lena Struwe, Ph.D., Stockholm (Sweden)

Nilgun Tumer, Ph.D., Purdue

Dan Ward, Ph.D., Virginia Polytechnic Institute

James White, Ph.D., Texas (Austin)

Qing-Li Wu, Ph.D., Peking Union Medical College (China)

Andrew Wyenandt, Ph.D., Ohio

Mark Zander, Georg-August-University Göttingen (Germany)

Ning Zhang, Ph.D., Louisiana

Plant Biology 765 (SGS-PLANTBIO)

Degree Requirements

Degree Requirements

Minimum Number of Credits in the Program

1. Courses (400 level or higher)
   M.S. with thesis: 26 credits
   M.S. without credits: 31 credits
   Ph.D.: 32 credits
2. Research

M.S. with thesis: 6 credits
M.S. without thesis: topic research and presentation of one paper 1 credit
Ph.D.: 34 credits

3. Additional 6 credits in courses or research for Ph.D. only

Cumulative Average for Graduation

The minimum of cumulative average for graduation is 3.0 (B) for all courses taken at Rutgers University after admission into the Plant Biology Program as a matriculated student. A student may elect to include grades from 400 and 500 level courses taken at Rutgers while a non-matriculated student in his/her official cumulative average.

Low Cumulative Average

A student who receives a term average below 3.0 or whose4 cumulative average falls below 3.0 will be placed on academic probation for the next terms. A student who is on academic probation for two consecutive semesters can be expelled from the Plant Biology Graduate Program.

Lab Rotations

Students entering the Graduate Program without an advisor will rotate through laboratories of Plant Biology Faculty in their first academic year. A student must reach out the Faculty Members of interest to setup rotation and timeline. It is expected that the student will identify their home laboratory by the end of the first year.

0. M.S. - up to 3 credits of lab rotation. Maximum 2 Labs
1. Ph.D. - up to 6 credits of lab rotation i.e. 3/Fall and 3/Spring. Maximum 3 Labs.

Credits

Undergraduate Courses

- Only 400 level courses are allowed
- 12 credits maximum allowed to be counted towards your degree for either M.S. or Ph.D.

Transfer Credits

- 8 course credits maximum for M.S. (Maximum 8 non-matriculated)
- 21 course credits maximum for Ph.D. (Maximum 12 non-matriculated)
- Courses taken in fulfillment of undergraduate requirements may not be transferred
- Transfer of credits toward completion of the M.S. degree is done following the first committee meeting
- Transfer of credits toward the Ph.D. degree is done following passage of the oral qualifying examination.

Qualifying Examination Ph.D. Program

The written qualifying examination will be administered by the Qualifying Exam Committee at the end of the second year of a student's entry into the Ph.D. program. Students enrolling in the program during a given Fall semester will take the written qualifying exam as a group. Five sections will be offered for the written qualifying examination. Students will be required to take three sections, in accordance with the three-core courses (matching the core seminars) attended during the first two years of the Ph.D. program. The oral qualifying examination must be taken after the written qualifying examination has been passed in its entirety. The oral exam is comprehensive

and focuses on the academic track area and all courses to be transferred for credit towards the course requirement. The oral qualifying exam will include a description of the student's proposed dissertation research, which normally constitutes the first part of the exam meeting, and critical examination and discussion of the research proposal. The oral qualifying exam must be taken at least one year (two terms) before the final examination (dissertation defense). Plant Biology Graduate Students are required to pass the oral examination no later than the end of their third year matriculated in the Ph.D. program.

M.S. without Thesis

Final oral examination.
The non-thesis master's paper generally represents a thorough review of a subject area of particular interest to a student. It may include results of research performed by the student, but deemed insufficient for submission as a master's thesis.

Brief presentation of paper topic, 30 min. maximum. Discussion of paper. Questions on any topic concerning Plant Biology.

This exam cannot take place before the paper has been written, read and approved by all members of the committee. It must be taken before the particular deadline date set by the Graduate School for the awarding of a May, October or January degree.

M.S. with Thesis

Final oral examination (Thesis Defense)

A master’s thesis in this program generally includes a body of research that is publishable as a paper in a refereed scientific journal. Such a paper in itself generally does not constitute a thesis. The thesis usually provides more detail in terms of methodology, a more extensive literature review and introduction, a broader discussion of results, and conclusions that may point to future research.

Presentation of the research will be in seminar form, approximately 40 45 minutes long, advertised on bulletin boards and by email a week in advance by the student, and open to the public. Arrangements for the seminar and examination rooms should be done through the program office at least a month in advance of the proposed defense

Discussion of research will proceed in greater depth after the audience has been dismissed and only the committee remains. Questions on any topic concerning Plant Biology will be asked. Exam time will be divided about evenly between the research and general subject matter. This exam cannot take place before the thesis has been written and read by all members of the committee. It must be taken before the particular deadline date set by the Graduate School for the awarding of a May, October, or January degree.

Plant Biology 765 (SGS-PLANTBIO)

Course Descriptions

Course Descriptions

16:765:502 ***(S) Advanced Plant Physiology (3)***
Overview of physiological mechanisms of plant adaption to abiotic stresses. Topics covered include changes in

cellular structure and functions, water relation, plant nutrition, carbon metabolism, and hormone metabolism in response to abiotic stresses.
Prerequisites: Undergraduate plant physiology or equivalent; organic chemistry, botany, or equivalent.

16:765:510 ***(F) Advanced Plant Genetics (3)***
Topics in plant genetics from both a classical and a molecular perspective. Topics include breeding systems, nuclear and organelle genomes, chromosome variation, linkage analysis and chromosome maps, recombination, mutation, transposons, epigenetics, and genetic approaches to genomic analysis.
Prerequisite: Undergraduate course in genetics. It is strongly recommended that students have had a course in biochemistry or molecular biology.

16:765:513 ***(S) Plant Molecular Biology (3)***
Fundamental and applied aspects of plant molecular biology, including isolation, structure, and regulation of nuclear and organellar genes, molecular biology of plant-microbe interactions, molecular biology of plant development, and plant biotechnology.
Prerequisites: Undergraduate genetics or equivalent, organic chemistry. Course in molecular genetics or molecular biology recommended.

16:765:515 ***(S) Fungi and Human Health (3)***
The best-known fungi are macroscopic (e.g. mushrooms, truffles and their relatives) but the most abundant forms of fungal life are microscopic molds and yeasts. Fungi affect human health directly as infectious agents, allergens and toxin producers. They also play important roles in food safety. On the positive side, they are used in production of certain foods, and as agents of alcoholic fermentation. Many of the most potent drugs isolated during the 20th century (penicillin, the statins, immunosuppressants) are fungal metabolites. This course addresses these broad topics through lectures, discussions, readings, and special projects. The course is intended for advanced undergraduates and graduate students across Rutgers University who will benefit from learning about the impact of fungi on human health, nutrition and drug discovery. The course may be of particular interest to students involved in the study of food science and nutrition; animal and health sciences; microbiology; pharmacology; and plant pathology.
Prerequisites: Two semesters of General Biology or equivalent.

16:765:520 ***(S) Plant Biochemistry and Metabolism (3)***
Physiological significance of principal metabolic systems, including photosynthesis, photorespiration, sulfate and nitrate reduction, and hexose metabolism; synthesis of lipids and lipid pigments, photochemical, and hormonal controls, chloroplast development, and biochemistry of secondary plant products.
Prerequisite: Plant physiology or equivalent.

16:765:522 ***(F) Applied Plant Science Statistics (3)***
Statistical methods such as experimental design, regression, ANOVA, covariance, field plot techniques, sampling, factorial experiments, treatment comparisons, and estimates of effects.

16:765:528 ***(F) Advanced Plant Breeding (3)***
Breeding, self-pollinated, cross-pollinated, and apomictic plants; role of mutation, polyploidy, and interspecific hybridization in plant improvement; inheritance of adaptive plant characters; developing and maintaining improved varieties.
Prerequisite: A course in general genetics.

16:765:531 ***(F) Principles of Plant Pathology (3)***
Fundamental concepts elucidating the nature, cause, diagnosis, dissemination, and control of plant diseases. Includes an overview of all plant disease agents.
Lec. 3 hrs. Prerequisite: Biology or microbiology.

16:765:533 ***(S) Advanced Mycology (3)***
Detailed study of the filamentous and fleshy fungi, with emphasis on identification, mycological literature, reproduction, and other special topics.
Lec. 2 hrs., lab. 3 hrs. Prerequisite: General mycology or equivalent.

16:765:536 ***Plant Disease Clinic (3)***
Workshop in diagnosing both pathogenic and nonpathogenic plant disorders, isolation and identification of causal organisms, and current disease control measures.
Lec./lab. 6 hrs. Prerequisite: General plant pathology or equivalent. Offered only during the Summer Session.

16:765:538 ***(S) Plant Pathogenesis (3)***
Mechanisms of pathogenesis; responses of plants to pathogens in terms of structure, function, and metabolism; disease resistance, mechanisms, and genetics of pathogenesis.
Prerequisite: 16:765:531 or equivalent.

16:765:539 ***(S) Advanced Technologies in Bioscience (3)***
This course will provide an overview of technologies in molecular biosciences. It will consist of a lecture and demonstration format and cover the basic principles of each technology and their applications. The technologies covered include quantitative reverse transcription polymerase chain reaction (qRT-PCR), laser scanning confocal microscopy, genotyping, surface plasmon resonance label-free detection (Biacore), mass spectroscopy, TIM system and applications, flow cytometry and cell sorting (FACS) and next generation sequencing.

16:765:540 (F) Natural Products and Human Health (3)
The course on Natural Products and Human Health covers the role of plant- and microbe-produced compounds in human nutrition and human health. It focuses on acquisition of knowledge and enhancement of comprehension about natural products, nutrition, drug development, toxicology and cognate fields. Topics include contemporary agricultural and socioeconomic trends that change our diets and nutrition, and the use of natural products in clinical medicine. Students are assessed through written examinations, their level of participation in class discussions, and in a project-based learning assignment.

The course is intended for graduate students and advanced undergraduates. It fulfills the core requirement for the ”natural products and human health” track in the graduate program in Plant Biology at Rutgers University. The course is also of interest to students from animal and health sciences; anthropology; environmental studies; microbiology; pharmacology, and cognate disciplines.

16:765:585 ***Bioinformatics (3)***
Basic UNIX, Perl, and R scripting designed to enable biologists to handle large DNA and protein datasets.

16:765:600, 601,602 ***Problems in Plant Biology (BA,BA)***
Laboratory and conference course for special problems.
Prerequisite: Permission of instructor.

16:765:603,604 ***Selected Topics in Plant Biology (BA,BA)***
Advanced topics of current interest; may be lecture and/or laboratory study.

16:765:609,610 ***(F) Scientific Communications in Plant Biology (1,1)***
Advanced topics investigated and presented by students in seminar and poster format.
Required of all graduate students.

16:765:621 ***(F) Core Seminar in Plant Biology I (1)***
In conjunction with invited seminars on the selected topic, students read and analyze current papers in primary literature in plant molecular/cell biology. Plant Molecular/Cellular Biology Track.
Prerequisite: Completion of or concurrent registration in 16:765:513.

16:765:622 ***(S) Core Seminar in Plant Biology II (1)***
In conjunction with invited seminars on the selected topic, students read and analyze current papers in primary literature horticulture and plant technology. Horticulture and Plant Technology Track.
Prerequisite: Completion of or concurrent registration in 16:765:502.

16:765:623 ***(F) Core Seminar in Plant Biology III (1)***
In conjunction with invited seminars on the selected topic, students read and analyze current papers in primary literature plant pathology. Plant Pathology Track.
Prerequisite: Completion of or concurrent registration in 16:765:531.

16:765:624 ***(S) Core Seminar in Plant Biology IV (1)***
In conjunction with invited seminars on the selected topic, students read and analyze current papers in primary literature plant breeding and genomics. Plant Breeding and Genomics Track.
Prerequisite: Completion of or concurrent registration in 11:776:506.

16:765:699 ***Nonthesis Study (1)***
Nonthesis master's degree research paper.

16:765:701,702 ***Research in Plant Biology (BA,BA)***
Thesis experimental research.

Plant Biology 765 (SGS-PLANTBIO)

Admission Deadlines

Admission Deadlines

APPLICATION TYPE	US APPLICANTS	NON-US APPLICANTS	MERIT-BASED AID
Ph.D.	April 1	March 1	January 1
M.S.	April 1	March 1	January 1

January 1: For both Domestic and International applicants, who wish to be considered for financial support.

March 1: For International applicants to be considered for admission without request for financial support.

April 1: For Domestic applicants to be considered for admission without request for financial support.

Plant Biology 765 (SGS-PLANTBIO)

Course Listing

Course Listing

Plant Biology courses are updated regularly. Find the most up to date listing visit the Plant Biology website.

Few courses are required; a student's curriculum is tailored to his or her interests within general program requirements. For the master's degree without thesis, 31 course credits and 1 credit for a paper are required. For the master's degree with thesis, 26 course credits, 6 research credits, and a research thesis are required. For the doctoral degree, a minimum of 32 course credits plus a minimum of 34 research credits, for a total of 72 credits, a research dissertation, and one academic year in residence are required. There is no language requirement.

In addition to the graduate courses described in A Guide to the Graduate Program in Plant Biology, courses listed under Biochemistry 115, Ecology and Evolution 215, Microbiology and Molecular Genetics 680, Statistics 960, or other appropriate programs may also be taken. Many advanced undergraduate courses (400 level) may be used for graduate credit.

COURSE NUMBER	COURSE TITLE AND SYLLABUS	INSTRUCTOR	CREDITS	SEMESTER OFFERED
16:765:502	Advanced Plant Physiology	Huang	3	Fall Odd
16:765:510	Advanced Plant Genetics	Gallavotti	3	Fall Even
16:765:513	Plant Molecular Biology (Cross listed w/126:413)	Maliga	3	Fall Odd
16:765:515	Fungi & Human Health (Cross listed w/ 11:776:415)	White	3	Spring Even
16:765:522	Applied Plant Science Statistics	Ward	3	Every Fall
16:765:528	Advanced Plant Breeding	Bonos, McLoughlin	3	Fall Odd
16:765:529	Plant Breeding (Cross listed w/11:776:406)	Bonos, Molnar	4	Every Spring
16:765:531	Principles of Plant Pathology	Oudemans	3	Fall Even
16:765:533	Advanced Mycology	White	3	Spring Even
16:765:536	Plant Disease Clinic - *Currently not available*		3	Summer Even
16:765:538	Plant Pathogenesis	Tumer, Lam	3	Spring Odd
16:765:539	Advanced Technologies in Bioscience (Cross listed w/11:126:444)	Tumer	3	Spring Even
16:765:540	Natural Products & Human Health	Tumer	3	Fall Odd
16:765:585	Bioinformatics (Cross listed w/11:126:485)	Cohen	3	Every Fall
16:765:600	Problems in Plant Biology	Gallavotti	BA	Every Summer
16:765:601	Problems in Plant Biology	Gallavotti	BA	Every Fall
16:765:602	Problems in Plant Biology	Gallavotti	BA	Every Spring
16:765:603	Special Topics in Plant Biology	Gallavotti	BA	Every Fall and Summer
16:765:604	Special Topics in Plant Biology	Gallavotti	BA	Every Spring

16:765:609	Scientific Communication in Plant Biology	Sideli	2	Fall Odd
16:765:621	Core Seminar in PB I *(Seminar corresponding with Core Course - Plant Molecular Biology 16:765:513)*	Maliga	1	Spring Even
16:765:622	Core Seminar in PB II *(Seminar corresponding with Core Course - Advanced Plant Physiology 16:765:502)*	Both, Heckman	1	Spring Odd
16:765:623	Core Seminar in PB III *(Seminar corresponding with Core Course - Principles of Plant Pathology 16:765:531)*	Kobayashi	1	Fall Odd
16:765:624	Core Seminar in PB IV *(Seminar corresponding with Core Course - Plant Breeding 16:765:529)*	Bonos, Molnar	1	Fall Even
16:765:625	Core Seminar in PB V *(Seminar corresponding with Core Course -Natural Products & Human Health16:765:540)*	Tumer	1	Spring Even
16:765:699	Non-Thesis Study	Gallavotti	1	Fall/ Spring/ Summer Every
16:765:701	Research Plant Biology (Indiv. Res. project)	Advisors	BA	Fall/ Summer Every
16:765:702	Research Plant Biology (Indiv Res. project)	Advisors	BA	Spring/ Summer Every
16:765:800	Matriculation Contd	Gallavotti	BA	Spring
16:765:811	Graduate Fellowship	Gallavotti	0	Fall/Spring Every
16:765:866	Full GA Appointment - Prefix E	Gallavotti	6	Fall/Spring Every
16:765:867	Full GA Appointment - Prefix E	Gallavotti	3	Fall/Spring Every
16:765:877	Full GA Appointment - Prefix E	Gallavotti	6	Fall/Spring Every
16:765:878	Full GA Appointment - Prefix E	Gallavotti	3	Fall/Spring Every

Political Science 790 (SGS-POLISCI)

POLITICAL SCIENCE 790

Degree Programs Offered: M.A., Ph.D.

Please visit the Political Science Ph.D. website.

Program Description

Our department engages broad questions about such topics as race and inequality, causes of war, how voters decide, and what influences government decision-making, both in the United States and abroad. The department runs the Center for the Experimental Study of Politics and Psychology, the Center for the Study of Mass Violence, and has close ties to the Eagleton Institute of Politics and its Center for Public Interest Polling. Several of our faculty and former graduate students are affiliated with the Center for European Studies, as well as the Center for American Women and Politics. Our graduate program is the only one in the nation to have a major field of study in Women and Politics.

Faculty

Nikol Alexander-Floyd, Ph.D., Rutgers

Saladin Ambar, Ph.D., Rutgers

Linda Bosniak, J.D., Stanford

Christine Cahill, Ph.D., California

Jocelyn Crowley, Ph.D., Massachusetts Institute of Technology

Eric Davis, Ph.D., Chicago

Jefferson Decker, Ph.D., Columbia

Kelly Dittmar, Ph.D., Rutgers

Janice Fine, Ph.D., Massachusetts Institute of Technology

Elena Gambino, Ph.D., Minnesota

Rebecca Givan, Ph.D., Northwestern

Stacey Greene, Ph.D., California

Ewan Harrison, PhD., Bristol

Milton Heumann, Ph.D., Yale

Xian Huang, Ph.D., Columbia

Nathan Kelly, Ph.D., North Carolina

Michael Kenwick, Ph.D., Pennsylvania

Mona Lena Krook, Ph.D., Columbia

Jan Kubik, Ph.D., Columbia

Richard Lau, Ph.D., UCLA

Susan Lawrence, Ph.D., Johns Hopkins

Beth Leech, Ph.D., Texas A&M

Jack Levy, Ph.D., Wisconsin

Summer Lindsey, Ph.D., Columbia

Mingwei Liu, Ph.D., Cornell

Yalidy Matos, Ph.D., Ohio

Katherine McCabe, Ph.D., Princeton

Lisa Miller, Ph.D., Washington

Jana Morgan Ph.D., North Carolina

Dilafruz Nazarova, Ph.D., Rutgers

Roland Rich, Ph.D., Australian

Kira Sanbonmatsu, Ph.D., Harvard

Robert Schub, Ph.D., Harvard

Tobias Schulze-Cleven, Ph.D., Berkeley

Lisa Schur, Ph.D., Berkeley

Paru Shah, Ph.D., Rice

Andrey Tomashevskiy, Ph.D., California

Carl Van Horn, Ph.D., Ohio

Political Science 790 (SGS-POLISCI)

Degree Requirements

Degree Requirements

Minimum Credits

• 72 total credits (coursework + research)

• 24 research credits required (700-level)

• Up to 24 approved transfer credits allowed

• Minimum 3.0 cumulative GPA

• Typical time to degree: 4–7 years

Qualifying Exam

• Completed after coursework

• Covers major field + first minor field

• Offered each November and April

Committee Requirements

• At least 4 members: advisor, 2 graduate faculty, 1 outside member

Academic Progress & Grades

• Grades: A, B, C, F (with B+ and C+ possible)

• Only one Incomplete allowed; must be resolved within one year

• Dismissal may occur if:

– More than two Cs (or lower) in one semester, or

– Four Cs (or lower) overall

Time Limits

• Ph.D. must be completed within 7 years (up to 3 extensions allowed)

• Transfer credits count toward time limits

Research Credits

• 24 research credits required

• Students and advisors must set progress expectations each semester

• Two consecutive IN or U grades may result in loss of funding

• Students must register for at least 1 credit each semester until defense

Terminal Master's Option

• 30 Rutgers graduate credits required

• Plus either:

– Passing a minor exam, OR

– Completing a master's thesis (6 research credits required for thesis)

Dissertation & Prospectus

• Dissertation committee guides' research

• Prospectus must be approved within 6 months after qualifying exams

Graduation Deadlines

Degree Deadlines

- October 1st for an October dated degree
- January 6th for a January dated degree
- April 1st for a May dated degree

If you are not able to submit all materials by the deadline, you will be considered for the next degree date

Political Science 790 (SGS-POLISCI)

Course Descriptions

Course Descriptions

16:790:600 ***Research Design in Political Science (3)***
A general introduction to research methods in political science, including research design, the philosophy of science, and qualitative methods.

16:790:601 ***Introduction to Quantitative Methods for Political Science (3)***
Introductory probability, statistics, and data analysis for Political Scientists.

16:790:602 ***Proseminar in American Politics (3)***
Introductory probability, statistics, and data analysis for Political Scientists.

16:790:603 ***Proseminar: Approaches to Comparative Political Analysis (3)***
This course provides doctoral students with an advanced introduction to the study of comparative politics. The course has two basic objectives: to acquaint students with several key substantive areas of research in the field of comparative politics and to introduce the major theoretical and methodological debates that animate the field. The course will provide students with intellectual tools that will improve their ability to analyze some of the most pressing political problems around the world today.

16:790:604 ***Proseminar: Theories of International Politics (3)***
Core course for international relations. Contemporary approaches to the study of international politics.

16:790:605 ***Prosem in Public Law (3)***
An introduction to the major literature of the field; critical examination of recent theories and methods in the study of the judicial process.

16:790:606 ***Proseminar in Political Thought: Plato To J.S. Mill (3)***
Research Topics in Political Theory [this course number is an option for students wishing to pursue a specific area related to their research interests and/or when there are enough students interested in a particular area to warrant a special topics seminar].

16:790: 607 ***Proseminar in Political Thought (3)***

16:790:608 ***Proseminar: Women and Politics (3)***

16:790:610 ***Elections and Participation (3)***
This course considers the determinants and consequences of various forms of political participation by examining the relationship between structures such as electoral systems and citizen behavior. Theories of democracy are evaluated considering empirical findings.

16:790:611 ***Public Opinion (3)***
Sources and consequences of public knowledge, beliefs, values, and attitudes about politics are covered. The course also considers the measurement of public opinion, political ideology, and the linkages between public opinion and public policy.

16:790:612 ***Psychology of Political Behavior (3)***
This course introduces basic explanatory theories at the individual level of analysis, and an exploration of present and potential utility of these theories for the explanation of human political behavior. Topics covered include personality and politics, attitudes and attitude change, information processing, group influence, and behavioral decision theory.

16:790:613 ***Political Parties (3)***
The structure and functioning of political parties. Emphasis on empirical studies of membership, nominations, party competition, campaigning, and finance.

16:790:614 ***Organized Interests (3)***
This course examines the role of interest groups, citizen groups, lobbying, and social movements in policymaking, with particular attention to the American case. Theories of collective action and pluralism are considered.

16:790:615 ***The Presidency (3)***
This course examines major theoretical approaches to studying the American presidency, and places special emphasis on the relationship between executive power and representative democracy. Students are introduced to the structure, operations, and consequences of the presidency, focusing on important controversies in scholarly literature.

16:790:616 ***The U.S. Congress (3)***
This course introduces students to the major components of Congress: congressional elections; the committees; congressional leadership; the legislative process, interest groups, and the relations of Congress with the president and the courts.

16:790:617 ***Mass Media and Politics (3)***
The role, structure, and effects of mass media on individuals, political institutions, and society. Topics include models of mass communication; government regulation; the media as information sources and agents of socialization.

16:790:618 ***American Political Development (3)***

16:790:619 ***(3)***
This course addresses issues of pressing and topical concern in American Politics.

16:790:620 ***Politics in The Middle East (3)***
The comparative analysis of nationalist movements, problems of social and cultural change, the Arab Israeli dispute, and inter-Arab politics. Examples drawn from historical and contemporary perspectives.

16:790:621 ***Global Populism Illiberal Democracy (3)***
What explains the rise of populism and illiberal democracy? This seminar examines the threat populism poses to democracy through the prism of wealth, inequality, and power. Using 5 case studies, the United States, France, Germany, Hungary and Turkey, the course analyzes how an ill-defined political discourse has been able to acquire wide political support.

16:790:622 ***Political Anthropology: Comparative Cultural Approaches (3)***

16:790:623 ***Political Culture (3)***
This course focuses on the strengths and weaknesses of different political culture approaches. Attention is also given to the importance of cultural variables for understanding political change.

16:790:624 ***Collective Protest and Social Movements (3)***
Review of main theories of contentious politics, social movements, and protest. The main theoretical issues to be explored are the relationship between structure and agency, the role of culture in protest, and the trans nationalization of contention.

16:790:625 ***Comparative Political Economy (3)***
Examine the sources of political cleavages over various economic policies and the formation of political coalitions. Explore a range of theories positing that differences in the organization of interest groups lead to systematic differences in economic outcomes.

16:790:626 ***Collective Identity: Ethnicity and Nationalism (3)***
This seminar explores various approaches to the analysis of the ongoing political and cultural struggle to delineate the parameters of inclusion in, and exclusion from, social and political formations. Ethnic revitalization and nationalism are explored from historical and cross-cultural perspectives.

16:790:627 ***Foundations of Capitalism and The Modern State (3)***
Comparative historical development of Euro-American capitalism and state structures, from 1450 through the industrial revolution. The role of class relations, state elites, international economic and geopolitical forces.

16:790:628 ***Political Economy of Latin America (3)***
Relation between models of capital accumulation and the development of democratic and authoritarian regimes. Special reference to Brazil, Argentina, Chile, and Mexico.

16:790:629 ***Politics of Authoritatian Regimes (3)***
Provides a thematic approach to studying the main theories and empirical analyses of comparative authoritarian politics. Examine how institutions such as political parties, elections, and legislatures are utilized and manipulated for authoritarian rule; what is the role of coercion, patronage, and propaganda playing in authoritarian politics.

16:790:630 ***International Political Economy (3)***
Comparative analysis of alternative theoretical approaches to the study of international political economy.

16:790:631 ***Theories of War and Peace (3)***
A survey and critical analysis of the leading theories of the causes of war and the conditions of peace.

16:790:632 ***Theories of Political Violence and Stability (3)***
A survey and critical analysis of the leading theories of the causes of intrastate violence, including ethnic conflict, revolutions, terrorism, and civil wars.

16:790:633 ***American Foreign Policy (3)***
The institutions and events which have shaped American foreign policy in the postwar era. Roles of the president, Congress, the bureaucracy, the military, and public opinion. The influence of partisan, economic, and social pressures on the formulation and implementation of policy.

16:790:634 ***Foreign Policy Analysis (3)***
Systematic analysis of factors influencing the foreign policies of states, with an emphasis on societal, governmental, and individual-level explanations.

16:790:635 ***Research Seminar on War and Peace (3)***
Original research in the area of war and peace. Models in international politics and peace research methods and literature. 16:790:685 Topics in International Politics Specialized studies and research in international politics.

16:790:636 ***Race, Theory, and Methods in Political Science (3)***

16:790:637 ***The Politics of Belonging: Us Immigration Politics and Policy (3)***
Immigration in the United States has been and continues to be about delineations of boundaries, of belonging. By definition, immigration delimits American national identity; however, it does so by defining it as a cultural notion. American-ness is a cultural identity, one that is explicitly descriptive about who belongs and who does not belong. Immigration not only defines the boundaries of American citizenship racially, but it also defines it in relation to the boundaries of the American nation-state. From its inception, the nation-state has been concerned with the politics of race and space, of borders. The border is a spatial site of the politics of exclusion. It is where we see the contestation of American nationalism; of the politics of belonging. This course is intended to provide an overview of the major immigration policies in the United States and connect contemporary immigration politics and policy to the past. It aims to explore the relate.

16:790:638 ***Race/Ethnicity, Gender, and The U.S. Party System (3)***
This course is designed to contribute to the department's new Race, Ethnicity, and Politics minor. It can be counted towards the Women and Politics major or minor. (And in the past, this course has counted towards the American politics major or minor.

16:790:639 ***International Border Politics (3)***
This discussion-based, research seminar explores the meanings, rules and consequences of borders and boundaries in international relations. The course explores how territorial sovereignty and boundedness came to have meaning in international relations, as well as how "traditional" security concerns and contemporary anxieties permeate the politics of bordering.

16:790:640 ***Philosophy of Political Inquiry (3)***
Introduction to the major issues in political and social inquiry in the broad perspective of the philosophy of the social sciences. Emphasis on the problems of epistemology, methodology, and historiography in political theory and political science. The orientation is philosophic and not methodological.

16:790:641 ***The 19th Century: Continental Political Thought from Hegel to Marx to Nietzsche (3)***

16:790:642 ***American Political Thought (3)***
Major themes in American political thought from the seventeenth century to the present; particular emphasis on contemporary movements and ideas including the new left, the new right, and black thought.
Prerequisites: 01:790:375,376 or permission of instructor.

16:790:643 ***Contemporary Philosophy and Politics (3)***
Recent developments in philosophy and their implications for politics and political theory.

16:790:644 ***Contemporary Philosophy and Politics (3)***
This course will concentrate on those thinkers, usually associated with Western Marxism and the Frankfort School, who are the most important representatives of what has come to be know as "critical theory.

16:790:645 ***Contemporary Philosophy and Politics (3)***
The political thought of Kant, Rousseau, and their contemporaries. Emphasis on enlightenment responses to the political, educational, and moral problems of modernity.

16:790:646 ***Themes in Feminist Theory in Politics (3)***

16:790:650 ***Seminar in Law and Politics (3)***
Intensive study of selected problem areas that may include issues in criminal justice, law and society, and judicial decision-making.

16:790:651 ***Seminar in Constitutional Law (3)***
An advanced seminar with emphasis on individual research projects assessing judicial craftsmanship and doctrinal lines of inquiry.

16:790:652 ***Philosophy of Law and Jurisprudence (3)***
The nature of law and its relation to other normative systems; major legal philosophies. Other topics include legal reasoning, the enforcement of morality, and the justification of punishment.

16:790:653 ***Seminar in Doctrinal Analysis (3)***
A critical survey of contemporary issues before the Supreme Court, the federal district courts, and the state supreme courts; modes of conflict resolution with a dual emphasis on substantive law findings and judicial craftsmanship; the interplay of forces at different stages in the adjudicatory process.

16:790:654 ***Contemporary Constitutional Issues (3)***
Current public policy questions explored in the judicial forum, both national and state. A variety of research methods employed.

16:790:655 ***Constitutionalism and Judicial Politics (3)***
An assessment of the role of the federal courts in the American system of democracy. Normative and empirical assessments of the foundations of judicial review and the alleged counter-majoritarian problem; interactions between courts and the other electorally accountable branches; the role of litigants and mobilization processes in the judicial development of doctrine and policy.

16:790:656 ***Compar Government (3)***

16:790:657 ***Pol Prob Far East (3)***

16:790:658 ***Pol Prob Far East (3)***

16:790:659 ***Sem State&urban Pols (3)***

16:790:660 ***Intersectional Political Theories: Race, Gender, and Sexuality (3)***
This course situates the specific theoretical paradigm of "intersectionality" within and among currents in political theory more broadly. (Cross-listed with Political Theory)

16:790:661 ***Women and Political Leadership (3)***

16:790:662 ***Gender and American Politics (3)***

16:790:663 ***Gender and Public Policy (3)***

16:790:664 ***Politics, Development, and Women (3)***

16:790:665 ***Gender and Comparative Politics (3)***
This course will examine the major paradigms used in the study of comparative politics, followed by an examination of the major critiques of these paradigms put forward by feminist scholars working in the field. The course also focuses on systematic discussions of methodologies that have been used by scholars working in the intersections between comparative politics and women and politics. (Cross-listed with Women and Politics)

16:790:666 ***Women's Movements in Comparative Perspective (3)***
Development and impact of women's movements in cross-cultural perspective. Analysis of the conditions and implications of women's participation in movements such as 40 nationalist, labor, and independent women's movement. (Cross-listed with Women and Politics.

16:790:667 ***Dissertation Proposals and Research in Women and Politics (3)***
The goal of this course is to assist students with the dissertation prospectus in Women and Politics. Many of the assigned readings will come from the fields of Women and Politics and American Politics. However, students from all fields are welcome. The course is designed to provide students with opportunities to develop their proposals and present their work in progress while providing guidance about the nature of dissertation research and an overview of central considerations in research design

16:790:670 ***Multivariable Techniques (3)***
The primary focus of this class is multivariate regression. Several additional multivariate methods are covered more briefly, including factor analysis, causal modeling, analysis of variance, scaling, and various limited dependent variable methods.

16:790:671 ***Survey Research Methods (3)***
Sample design, questionnaire construction, interviewer training and evaluation, analysis of survey data, and preparation of proposals for potential users.

16:790:672 ***Research Seminar in Political Science: Applications of Quantitative Methods (3)***
Intensive study and research application of selected method, including Maximum Likelihood Estimation.

16:790:673 ***Game Theory For Political Science (3)***
An introductory course in game theory for political science graduate students: This course can serve either as a first step to a more thorough study of the game-theoretic literature, or it can stand alone, providing an appreciation of this field to non-specialists. (Either this course or Multivariate Techniques is required for students majoring in American Politics or International Relations.)

16:790:674 ***Applied Formal Models in Political Science (3)***
This course is a wide-ranging survey of applied formal models in political science. Students will learn how to read, appreciate, and constructively engage formal-theoretic arguments. Students will develop an understanding of significant "modeling dialogues" that are shaping our discipline and an awareness of the potential for intellectual gains from exchange across sub-fields. Possible topics include (but are not limited to) legislative organization, comparative electoral institutions, crisis bargaining, and the political economy of dictatorship. "Applications of Formal Models" complements 790:673 "Game Theory for Political Scientists." These two courses may be taken independently or in either order.

16:790:675 ***Advanced Topics in Game Theory (3)***

16:790:676 ***Experimental Methods (3)***
This course will provide a unique offering by focusing on applications in experimental methods specifically for political science research. Experiments are used widely in political science, from the evaluation of how campaign advertisements influence voters, to the study of audience costs in international relations, a randomized control trial of a social program in Latin America, or an audit of how elected officials respond to their constituents. The course will appeal to PhD students in political science, as well as advanced undergraduates and MA students interested in original experimental research in the social sciences.

16:790:677 ***Maximum Likelihood Estimation (Mle) (3)***
This course covers the theory of maximum likelihood estimation and the application and analysis of generalized linear models. Students learn how to conduct quantitative analyses with categorical, ordered, and count data, among other techniques.

16:790:678 ***Advanced Topics in Multivariate Statistics (3)***
This variable-topic course focus on multivariate techniques beyond OLS regression. Topics include maximum likelihood estimation; dichotomous, ordinal, and nominal logistic regression; multilevel modeling; hazards models; latent variable structural equation modeling; and related techniques.

16:790:680 ***Emerging Trends in Political Science (3)***

16:790:681 ***Emerging Trends in Political Science (3)***

16:790:682 ***Advanced Topics in American Politics (3)***
This course addresses issues of pressing and topical concern in American Politics (3)

16:790:683 ***Advanced Topics in American Politics (3)***

16:790:684 ***Research in Comparative Politics (3)***
Directed research for advanced students. An advanced seminar for Ph.D. candidates who plan to offer the comparative government and politics field for their degree will be offered when enough warrant.

16:790:685 ***Topics in International Politics (3)***
Specialized studies and research in international politics.

16:790:686 ***Advanced Topics in International Relations (3)***
Advanced research seminar in international relations, intended to provide an opportunity for the design of doctoral research projects and the investigation of their feasibility. Open only to upper-level Ph.D. students.

16:790:687 ***Research Topics in Political Philosophy (3)***

16:790:688 ***Advanced Topics in Public Law (3)***
An advanced research seminar for upper-level Ph.D. candidates in public law intended to provide an opportunity for the design of doctoral research projects and the investigation of their feasibility.

16:790:689 ***Advanced Topics in Women and Politics (3)***

16:790:691 ***Independent Study in American Politics***
(requires special permission number) (3)

16:790:692 ***Independent Study in Comparative Politics***
(requires special permission number) (3)

16:790:693 ***Independent Study in International Relations***
(requires special permission number) (3)

16:790:694 ***Independent Study in Public Law***
(requires special permission number) (3

16:790:695 ***Independent Study in Political Theory***
(requires special permission number) (3)

16:790:696 ***Independent Study in Women and Politics***
(requires special permission number) (3)

16:790:697 ***Independent Study in Political Economy***
(requires special permission number) (3)

16:790:698 ***Independent Study in Methodology***
(requires special permission number) (3)

16:790:701 ***Research in Political Science (3)***

16:790:702 ***Research in Political Science (3)***

16:790:703 ***Internshp in Pub Adm (3)***

16:790:757 ***Eco Power&govtl Proc (3)***

16:790:800 ***Matriculation Contd (3)***

16:790:811 ***Graduate Fellowship (3)***

16:790:844 ***Research Internship (3)***

16:790:866 ***Full Ga Appointment (3)***

16:790:867 ***Part Ga Appointment (3)***

16:790:877 ***Full Ta Appointment (3)***

16:790:878 ***Part Ta Appointment (3)***

16:790:996 ***Research Assistant (3)***

16:790:997 ***Teaching Assistant (3)***

Political Science 790 (SGS-POLISCI)

Apply

Apply

Explore Center for the Experimental Study of Politics and Psychology

Admission Deadlines

For best consideration apply by these dates

APPLICATION TYPE	US APPLICANTS	NON-US APPLICANTS	MERIT-BASED AID
Ph.D.	January 15	January 15	January 15

Political Science 790 (SGS-POLISCI)

Course Listing

Course Listing

COURSE	CR	TITLE	COURSE DETAILS
16:790:500	3.00	Introduction to the United Nations	Spring 2024: Introduction to the United Nations Section: 90 (Index: 15624) Professor: NAZAROVA Credits: 3.00 UNMA ONLINE COURSE Section 90 Comment: Go to Canva. Online Course · PM - ** Lec Cross Listing: 16:790:527:90 (15627) Cross Listing: 16:790:527:01 (15626)
16:790:527	3.00	Special Topics in Political Science	Spring 2024: Special Topics in Political Science Section: 01 (Index: 15626) Professor: PIERCE, HEATHER Credits: 3.00 Subtitle: QUANT METHODS FOR GLOBAL POLICY ANALYS · W 0600 PM - 0840 HCK 612 D/C Lec Spring 2024: Special Topics in Political Science Section: 90 (Index: 15627) Professor: PIERCE, HEATHER Credits: 3.00 Subtitle: QUANT METHODS FOR GLOBAL POLICY ANALYS · W 0600 PM - 0840 ** Lec
16:790:531	3.00	Human TraFicking and the United Nations	Spring 2024: Human Trafficking and the United Nations Section: 90 (Index: 15628) Professor: LITO, MELINA Credits: 3.00 Section 90 Comment: Online Course, Go to Canva. · PM - ** Lec Cross Listing: 16:790:535:90 (15630) Cross Listing: 16:790:535:01 (15629)

16:790:535	3.00	International Women's Rights	Spring 2024: International Women's Rights Section: 01 (Index: 15629) Professor: HIGER, AMY Credits: 3.00 HICKMAN RM #612 VIDEO WALL ROOM Section 01 Comment: Go to http://canvas.rutgers.edu · H 0600 PM - 0840 HCK 612 D/C Lec Spring 2024: International Women's Rights Section: 90 (Index: 15630) Professor: HIGER, AMY Credits: 3.00 Section 90 Comment: Go to Canva. Online Course · H 0600 PM - 0840 ** Lec Cross Listing: 16:790:553:90 (15632) Cross Listing: 16:790:553:01 (15631)
16:790:553	3.00	Politics, Economic s and Security in East Asia	Spring 2024: Politics, Economics and Security in East Asia Section: 01 (Index: 15631) Professor: RICH, ROLAND Credits: 3.00 HICKMAN RM #612 VIDEO WALL ROOM Subtitle: POLITICS, ECONOMICS & SECURITY EAST ASIA Section 01 Comment: Go to Canva. · M 0300 PM - 0540 HCK 612 D/C Lec Spring 2024: Politics, Economics and Security in East Asia Section: 90 (Index: 15632) Professor: RICH, ROLAND Credits: 3.00 Subtitle: POLITICS, ECONOMICS & SECURITY EAST ASIA Section 90 Comment: Go to Canva. Online Course · M 0300 PM - 0540 ** Lec Cross Listing: 16:790:556:90 (15634) Cross Listing: 16:790:556:01 (15633)

16:790:556	3.00	State Building After Civil Wars: The Role of the UN and International Community	Spring 2024: State Building After Civil Wars: The Role of the Un and International Community Section: 01 (Index: 15633) Professor: HETOU, GHAIDAA Credits: 3.00 Section 01 Comment: Go to Canva. · S 1000 AM - 1240 HCK 612 D/C Lec Spring 2024: State Building After Civil Wars: The Role of the Un and International Community Section: 90 (Index: 15634) Professor: HETOU, GHAIDAA Credits: 3.00 Section 90 Comment: Online Course, Go to Canva. · S 1000 AM - 1240 ** Lec
16:790:570	3.00	International Trade	Spring 2024: International Trade Section: 90 (Index: 15635) Professor: ADELKOFF Credits: 3.00 Section 90 Comment: Online Course, Go to Canva. · PM - ** Lec Cross Listing: 16:790:583:90 (15637) Cross Listing: 16:790:583:01 (15636)
16:790:583	3.00	Public Health Infrastructers and National Security	Spring 2024: Public Health Infrastructers and National Security Section: 01 (Index: 15636) Professor: DARWISH, IHAB Credits: 3.00 HICKMAN RM #612 VIDEO WALL ROOM Section 01 Comment: Go to Canva. · S 0100 PM - 0340 HCK 612 D/C Lec Spring 2024: Public Health Infrastructers and National Security Section: 90 (Index: 15637) Professor: DARWISH, IHAB Credits: 3.00 Section 90 Comment: Online Course · S 0100 PM - 0340 ** Lec
16:790:590	3.00	Research Internship in United Nations and Global Policy	Spring 2024: Research Internship in United Nations and Global Policy Section: 01 (Index: 15638) Professor: NAZAROVA Credits: 3.00 BY ARRANGEMENT WITH PROFESSORINTERNSHIP COURSE Section 01 Comment: Go to Canva. · PM - Lec Cross Listing: 16:790:599:90 (15640) Cross Listing: 16:790:599:01 (15639)

16:790:599	3.00	Capstone Seminar in the United Nations and Global Policy Studies	Spring 2024: Capstone Seminar in the United Nations and Global Policy Studies Section: 01 (Index: 15639) Professor: RICH, ROLAND Credits: 3.00 HICKMAN RM #612 VIDEO WALL ROOM Section 01 Comment: Go to Canva. · M 0600 PM - 0840 HCK 612 D/C Lec Spring 2024: Capstone Seminar in the United Nations and Global Policy Studies Section: 90 (Index: 15640) Professor: RICH, ROLAND Credits: 3.00 UNMA CONVERGED COURSE Section 90 Comment: Online Course · M 0600 PM - 0840 ** Lec
16:790:600	3.00	Research Design in Political Science	Spring 2024: Research Design in Political Science Section: 01 (Index: 15641) Professor: MILLER, LISA Credits: 3.00 Section 01 Comment: Go to Canva. · T 1200 PM - 0240 HCK 313 D/C Lec
16:790:611	3.00	Public Opinion	Spring 2024: Public Opinion Section: 01 (Index: 15642) Professor: LAU, RICHARD Credits: 3.00 Section 01 Comment: Go to Canva. · M 0300 PM - 0540 HCK 313 D/C Lec Cross Listing: 16:790:620:90 (15645) Cross Listing: 16:790:620:01 (15644)
16:790:620	3.00	Politics in the Middle East	Spring 2024: Politics in the Middle East Section: 01 (Index: 15644) Professor: DAVIS, ERIC Credits: 3.00 · T 0600 PM - 0840 HCK 612 D/C Lec Spring 2024: Politics in the Middle East Section: 90 (Index: 15645) Professor: DAVIS, ERIC Credits: 3.00 · T 0600 PM - 0840 ** Lec
16:790:629	3.00	Politics of Authoritatian Regimes	Spring 2024: Politics of Authoritatian Regimes Section: 01 (Index: 15646) Professor: HUANG, XIAN Credits: 3.00 · H 1200 PM - 0240 HCK 313 D/C Lec
16:790:660	3.00	Intersectional Political Theories: Race, Gender, and Sexuality	Spring 2024: Intersectional Political Theories: Race, Gender, and Sexuality Section: 01 (Index: 15647) Professor: GAMBINO, ELENA Credits: 3.00 Section 01 Comment: Go to Canva. · W 0300 PM - 0540 HCK 313 D/C Lec

16:790:665	3.00	Gender and Comparative Politics	Spring 2024: Gender and Comparative Politics Section: 01 (Index: 15648) Professor: KROOK, MONA Credits: 3.00 · T 0300 PM - 0540 HCK 313 D/C Lec
16:790:676	3.00	Experimental Methods	Spring 2024: Experimental Methods Section: 01 (Index: 15650) Professor: MCCABE Credits: 3.00 · W 1200 PM - 0240 HCK 313 D/C Lec
16:790:692	3.00	Independent Study in Comparative Politics	Spring 2024: Independent Study in Comparative Politics Section: 01 (Index: 15652) Professor: KUBIK, JAN Credits: 3.00 · PM - Lec
16:790:694	3.00	Independent Study in Public Law	Spring 2024: Independent Study in Public Law Section: 01 (Index: 15654) Professor: MILLER, LISA Credits: 3.00 · PM - Lec
16:790:696	3.00	Independent Study in Women and Politics	Spring 2024: Independent Study in Women and Politics Section: 01 (Index: 15656) Professor: SHAH, PARU; LINDSEY, SUMMER Credits: 3.00 · PM - Lec
16:790:698	3.00	Independent Study in Methodology	Spring 2024: Independent Study in Methodology Section: 01 (Index: 15658) Professor: MCCABE Credits: 3.00 · PM - Lec

16:790:702		Research in Political Science	Spring 2024: Research in Political Science Section: A1 (Index: 15659) Professor: AMBAR, SALADIN Credits: · PM - Lec Spring 2024: Research in Political Science Section: A2 (Index: 19130) Professor: ALEXANDER-FLOYD Credits: · PM - Lec Spring 2024: Research in Political Science Section: B1 (Index: 15660) Professor: BAKER, ROSS Credits: · PM - Lec Spring 2024: Research in Political Science Section: B2 (Index: 19131) Professor: BOSNIAK, LINDA Credits: · PM - Lec Spring 2024: Research in Political Science Section: C6 (Index: 19132) Professor: CROWLEY Credits: · PM - Lec Spring 2024: Research in Political Science Section: D1 (Index: 15666) Professor: DANIELS Credits: · PM - Lec Spring 2024: Research in Political Science Section: D2 (Index: 15667) Professor: DAVIS, ERIC Credits: · PM - Lec Spring 2024: Research in Political Science Section: D3 (Index: 19133) Professor: DECKER Credits: · PM - Lec Spring 2024: Research in Political Science Section: D4 (Index: 19134) Professor: DITTMAR, KELLY Credits: · PM - Lec Spring 2024: Research in Political Science Section: F1 (Index: 15668) Professor: FINE, JANICE Credits: · PM - Lec Spring 2024: Research in Political Science Section: G1 (Index: 15669) Professor: GREENE, STACEY Credits: · PM - Lec Spring 2024: Research in Political Science Section: G2 (Index: 19135) Professor: GAMBINO, ELENA Credits: · PM - Lec

Spring 2024: Research in Political Science Section: H3 (Index: 15671) Professor: HEUMANN, MILTON
Credits:
- PM - Lec

Spring 2024: Research in Political Science Section: H4 (Index: 15672) Professor: HUANG, XIAN
Credits:
- PM - Lec

Spring 2024: Research in Political Science Section: K1 (Index: 15673) Professor: KAUFMAN, ROBERT
Credits:
- PM - Lec

Spring 2024: Research in Political Science Section: K2 (Index: 15674) Professor: KELEMEN, ROFFER Credits:
- PM - Lec

Spring 2024: Research in Political Science Section: K3 (Index: 15675) Professor: KUBIK, JAN
Credits:
- PM - Lec

Spring 2024: Research in Political Science Section: K4 (Index: 15676) Professor: KROOK, MONA
Credits:
- PM - Lec

Spring 2024: Research in Political Science Section: K5 (Index: 15677) Professor: GIVAN, REBECCA Credits:
- PM - Lec

Spring 2024: Research in Political Science Section: K6 (Index: 19067) Professor: KENWICK
Credits:
- PM - Lec

Spring 2024: Research in Political Science Section: L1 (Index: 15678) Professor: LAU, RICHARD
Credits:
- PM - Lec

Spring 2024: Research in Political Science Section: L2 (Index: 19136) Professor: LAWRENCE, SUSAN Credits:
- PM - Lec

Spring 2024: Research in Political Science Section: L3 (Index: 15679) Professor: LEECH, BETH
Credits:
- PM - Lec

Spring 2024: Research in Political Science Section: L5 (Index: 15680) Professor: LEVY, JACK
Credits:

			• PM - Lec Spring 2024: Research in Political Science Section: L7 (Index: 00100) Professor: LINDSEY, SUMMER Credits: • PM - Lec Spring 2024: Research in Political Science Section: L8 (Index: 15681) Professor: LIU, MINGWEI Credits: • PM - Lec Spring 2024: Research in Political Science Section: M1 (Index: 15682) Professor: MATOS, YALIDY Credits: • PM - Lec Spring 2024: Research in Political Science Section: M3 (Index: 15683) Professor: MILLER, LISA Credits: • PM - Lec Spring 2024: Research in Political Science Section: M4 (Index: 15684) Professor: MCCABE Credits: • PM - Lec Spring 2024: Research in Political Science Section: S1 (Index: 15686) Professor: SANBONMATSU Credits: • PM - Lec Spring 2024: Research in Political Science Section: S2 (Index: 15687) Professor: SCHUB, ROBERT Credits: • PM - Lec Spring 2024: Research in Political Science Section: S3 (Index: 15688) Professor: SCHUB, ROBERT Credits: • PM - Lec Spring 2024: Research in Political Science Section: S4 (Index: 19137) Professor: SCHUB, ROBERT Credits: • PM - Lec Spring 2024: Research in Political Science Section: S5 (Index: 19138) Professor: SHAH, PARU Credits: • PM - Lec Spring 2024: Research in Political Science Section: T2 (Index: 15689) Professor: TOMASHEVSKIY Credits: • PM - Lec Spring 2024: Research in Political Science Section: Z1 (Index: 19139) Professor: ZAMALIN, ALEX Credits: • PM - Lec

16:790:800	0.00	Matriculation Contd	Spring 2024: Matriculation Contd Section: 01 (Index: 15691) Professor: FLOWERS-YHAP Credits: 0.00 · PM - Lec
16:790:811	0.00	Graduate Fellowship	Spring 2024: Matriculation Contd Section: 01 (Index: 15691) Professor: FLOWERS-YHAP Credits: 0.00 · PM - Lec
16:790:844	0.00	Research Internship	Spring 2024: Research Internship Section: 01 (Index: 15693) Professor: FLOWERS-YHAP Credits: 0.00 · PM - Lec
16:790:866	6.00	Full Ga Appointment	Spring 2024: Full Ga Appointment Section: 01 (Index: 15694) Professor: FLOWERS-YHAP Credits: 6.00 · PM - Lec
16:790:867	3.00	Part Ga Appointment	Spring 2024: Part Ga Appointment Section: 01 (Index: 15695) Professor: FLOWERS-YHAP Credits: 3.00 · PM - Lec
16:790:877	6.00	Full Ta Appointment	Spring 2024: Full Ta Appointment Section: 01 (Index: 15696) Professor: FLOWERS-YHAP Credits: 6.00 · PM - Lec
16:790:878	3.00	Part Ta Appointment	Spring 2024: Part Ta Appointment Section: 01 (Index: 15697) Professor: FLOWERS-YHAP Credits: 3.00 · PM - Lec
16:790:550	**3.00**	Theory and Method in the Study of Conflict Resoltuion	Summer 2024: Theory and Method in the Study of Conflict Resoltuion Section: H1 (Index: 05479) Professor: ROSSI, MICHAEL Credits: 3.00 Section H1 Comment: Go to Canva. · PM - ** Lec
16:790:558	**3.00**	Politics of Cyber Warfare	Summer 2024: Politics of Cyber Warfare Section: B1 (Index: 05474) Professor: DARWISH, IHAB Credits: 3.00 Section B1 Comment: Go to Canva. · PM - ** Lec

16:790:702		Research in Political Science	Summer 2024: Research in Political Science Section: H2 (Index: 11025) Professor: LAU, RICHARD Credits: Section H2 Comment: Go to Canva. · PM - D/C Lec
16:790:500	**3.00**	Introduction to the United Nations	Fall 2024: Introduction to the United Nations Section: 90 (Index: 16421) Professor: NAZAROVA Credits: 3.00 UNMA ONLINE COURSE Section 90 Comment: Go to Canva. · PM - ** Lec Cross Listing: 16:790:501:90 (16423) Cross Listing: 16:790:501:01 (16422)
16:790:501	**3.00**	Theory and Method in the Study of Global affairs	Fall 2024: Theory and Method in the Study of Global affairs Section: 01 (Index: 16422) Professor: PIERCE, HEATHER Credits: 3.00 VIDEO WALL IN HCK RM 612 Section 01 Comment: Go to Canva. · W 0600 PM - 0840 HCK 612 D/C Lec Fall 2024: Theory and Method in the Study of Global affairs Section: 90 (Index: 16423) Professor: PIERCE, HEATHER Credits: 3.00 Section 90 Comment: Go to Canva. · W 0600 PM - 0840 ** Lec Cross Listing: 16:790:520:90 (16425) Cross Listing: 16:790:520:01 (16424)
16:790:520	3.00	American Foreign Policy	Fall 2024: American Foreign Policy Section: 01 (Index: 16424) Professor: HETOU, GHAIDAA Credits: 3.00 Section 01 Comment: Go to Canva. · S 1000 AM - 1240 HCK 612 D/C Lec Fall 2024: American Foreign Policy Section: 90 (Index: 16425) Professor: HETOU, GHAIDAA Credits: 3.00 Section 90 Comment: Go to Canva. · S 1000 AM - 1240 ** Lec Cross Listing: 16:790:527:90 (16427) Cross Listing: 16:790:527:01 (16426)

16:790:527	3.00	Special Topics in Political Science	Fall 2024: Special Topics in Political Science Section: 01 (Index: 16426) Professor: BENNETT, YAN Credits: 3.00 UNMA STUDENTS ONLY Subtitle: UN REIMAGINED FOR 21ST CENTURY Section 01 Comment: Go to Canva. · S 0100 PM - 0340 HCK 612 D/C Lec Fall 2024: Special Topics in Political Science Section: 90 (Index: 16427) Professor: BENNETT, YAN Credits: 3.00 Subtitle: UN REIMAGINED FOR 21ST CENTURY Section 90 Comment: Go to Canva. · S 0100 PM - 0340 ** Lec Cross Listing: 16:790:537:90 (16430) Cross Listing: 16:790:537:01 (16429)
16:790:537	3.00	Gender Equality, Women's Empowerment, and the United Nations	Fall 2024: Gender Equality, Women's Empowerment, and the United Nations Section: 01 (Index: 16429) Professor: KROOK, MONA Credits: 3.00 Subtitle: GENDER EQUALITY,EMPOWERMNT/UN Section 01 Comment: Go to Canva. · M 0600 PM - 0840 HCK 612 D/C Lec Fall 2024: Gender Equality, Women's Empowerment, and the United Nations Section: 90 (Index: 16430) Professor: KROOK, MONA Credits: 3.00 Subtitle: GENDER EQUALITY,EMPOWERMNT/UN Section 90 Comment: Go to Canva. · M 0600 PM - 0840 ** Lec
16:790:567	3.00	Special Topics in Political Science	Fall 2024: Special Topics in Political Science Section: 90 (Index: 16431) Professor: DARWISH, IHAB Credits: 3.00 Subtitle: CYBER SECURITY & ARTIFL INTELLIGENCE Section 90 Comment: Go to Canva. · PM - ** Lec
16:790:571	3.00	Global Governance of Financial Crisis	Fall 2024: Global Governance of Financial Crisis Section: 90 (Index: 16432) Professor: ADELKOFF Credits: 3.00 Section 90 Comment: Go to Canva. · PM - ** Lec Cross Listing: 16:790:587:90 (16435) Cross Listing: 16:790:587:01 (16434)

16:790:587	3.00	Special Topics in Political Science	Fall 2024: Special Topics in Political Science Section: 01 (Index: 16434) Professor: HIGER, AMY Credits: 3.00 Subtitle: GLOBAL HEALTH & INTL HUMAN RIGHTS Section 01 Comment: Go to Canva. · M 0300 PM - 0540 HCK 612 D/C Lec Fall 2024: Special Topics in Political Science Section: 90 (Index: 16435) Professor: HIGER, AMY Credits: 3.00 Subtitle: GLOBAL HEALTH & INTL HUMAN RIGHTS · M 0300 PM - 0540 ** Lec
16:790:590	3.00	Research Internship in United Nations and Global Policy	Fall 2024: Research Internship in United Nations and Global Policy Section: 90 (Index: 16436) Professor: NAZAROVA Credits: 3.00 UNMA SAKAI Section 90 Comment: Go to Canva. · PM - Lec
16:790:595	3.00	Perspectives on American Politics	Fall 2024: Perspectives on American Politics Section: 01 (Index: 16437) Professor: BALMIR Credits: 3.00 OPEN ONLY TO EAGLETON FELLOWS WILL MEET AT AT WOODLAWN WD DRAWING ROOM Section 01 Comment: Go to Canva. · F 0200 PM - 0500 WD DRAW D/C Lec Cross Listing: 16:790:599:90 (16439) Cross Listing: 16:790:599:01 (16438)
16:790:599	3.00	Capstone Seminar in the United Nations and Global Policy Studies	Fall 2024: Capstone Seminar in the United Nations and Global Policy Studies Section: 01 (Index: 16438) Professor: DAVIS, ERIC Credits: 3.00 HICKMAN RM #612 VIDEO WALL ROOM Section 01 Comment: Go to Canva. · T 0600 PM - 0840 HCK 612 D/C Lec Fall 2024: Capstone Seminar in the United Nations and Global Policy Studies Section: 90 (Index: 16439) Professor: DAVIS, ERIC Credits: 3.00 Section 90 Comment: Go to Canva. · T 0600 PM - 0840 ** Lec

16:790:604	3.00	Proseminar: Theories of International Politics	Fall 2024: Proseminar: Theories of International Politics Section: 01 (Index: 16441) Professor: KENWICK Credits: 3.00 Section 01 Comment: Section open to Honors College students only · H 0300 PM - 0540 HCK 313 D/C Lec
16:790:605	3.00	Prosem in Public Law	Fall 2024: Prosem in Public Law Section: 01 (Index: 16442) Professor: HEUMANN, MILTON Credits: 3.00 Section 01 Comment: Go to Canva. · W 1210 PM - 0310 WD LIB D/C Lec
16:790:608	3.00	Proseminar in Women and Politics	Fall 2024: Proseminar in Women and Politics Section: 01 (Index: 16443) Professor: GAMBINO, ELENA Credits: 3.00 Section 01 Comment: Go to Canva. · T 0300 PM - 0540 HCK 313 D/C Lec
16:790:610	3.00	Elections and Participation	Fall 2024: Elections and Participation Section: 01 (Index: 18780) Professor: LAU, RICHARD Credits: 3.00 · W 0900 AM - 1159 HCK 313 D/C Lec
16:790:670	3.00	Multivariable Techniques	Fall 2024: Multivariable Techniques Section: 01 (Index: 16444) Professor: TOMASHEVSKIY Credits: 3.00 Subtitle: MULTIVARIATE STATE Section 01 Comment: Go to http://canvas.rutgers.edu · H 1200 PM - 0240 HCK 313 D/C Lec
16:790:681	3.00	Emerging Trends in Political Science	Fall 2024: Emerging Trends in Political Science Section: 01 (Index: 16445) Professor: LINDSEY, SUMMER Credits: 3.00 Subtitle: MIXED METHODS AND FIELD RESEARCH Section 01 Comment: Go to http://canvas.rutgers.edu · T 1200 PM - 0240 HCK 313 D/C Lec
16:790:685	3.00	Topics in International Politics	Fall 2024: Topics in International Politics Section: 01 (Index: 16446) Professor: SCHUB, ROBERT Credits: 3.00 Subtitle: DOMESTIC POLITICS OF IR Section 01 Comment: Go to Canva. · M 1200 PM - 0240 HCK 313 D/C Lec

16:790:691	3.00	Independent Study in American Politics	Fall 2024: Independent Study in American Politics Section: 01 (Index: 16447) Professor: – Credits: 3.00 · PM - Lec
16:790:692	3.00	Independent Study in Comparati ve Politics	Fall 2024: Independent Study in Comparative Politics Section: 01 (Index: 16448) Professor: KROOK, MONA Credits: 3.00 · PM - Lec
16:790:693	3.00	Independe nt Study in Internatio nal Relations	Fall 2024: Independent Study in International Relations Section: 01 (Index: 16449) Professor: – Credits: 3.00 · PM - Lec
16:790:694	3.00	Independent Study in Public Law	Fall 2024: Independent Study in Public Law Section: 01 (Index: 16450) Professor: – Credits: 3.00 · PM - Lec
16:790:695	3.00	Independent Study in Political Theory	Fall 2024: Independent Study in Political Theory Section: 01 (Index: 16451) Professor: – Credits: 3.00 · PM - Lec
16:790:696	3.00	Independent Study in Women and Politics	Fall 2024: Independent Study in Women and Politics Section: 01 (Index: 16452) Professor: – Credits: 3.00 · PM - Lec
16:790:697	3.00	Independent Study in Political Economy	Fall 2024: Independent Study in Political Economy Section: 01 (Index: 16453) Professor: – Credits: 3.00 · PM - Lec
16:790:698	3.00	Independent Study in Methodology	Fall 2024: Independent Study in Methodology Section: 01 (Index: 16454) Professor: – Credits: 3.00 · PM - Lec

16:790:701		Research in Political Science	Fall 2024: Research in Political Science Section: D2 (Index: 16457) Professor: DAVIS, ERIC Credits: · PM - Lec Fall 2024: Research in Political Science Section: G1 (Index: 16458) Professor: GREENE, STACEY Credits: · PM - Lec 16:790:701 Research in Political Science Fall 2024: Research in Political Science Section: H3 (Index: 16459) Professor: HEUMANN, MILTON Credits: · PM - Lec Fall 2024: Research in Political Science Section: H4 (Index: 16460) Professor: HUANG, XIAN Credits: · PM - Lec Fall 2024: Research in Political Science Section: K1 (Index: 16461) Professor: KAUFMAN, ROBERT Credits: · PM - Lec Fall 2024: Research in Political Science Section: K3 (Index: 16462) Professor: KUBIK, JAN Credits: · PM - Lec Fall 2024: Research in Political Science Section: K4 (Index: 16463) Professor: KELEMEN, ROFFER Credits: · PM - Lec Fall 2024: Research in Political Science Section: K5 (Index: 16464) Professor: KROOK, MONA Credits: · PM - Lec Fall 2024: Research in Political Science Section: K6 (Index: 16465) Professor: KENWICK Credits: · PM - Lec Fall 2024: Research in Political Science Section: L1 (Index: 16466) Professor: LAU, RICHARD Credits: · PM - Lec Fall 2024: Research in Political Science Section: L2 (Index: 16467) Professor: LAWRENCE, SUSAN Credits: · PM - Lec

			Fall 2024: Research in Political Science Section: L4 (Index: 16468) Professor: LEECH, BETH Credits: · PM - Lec Fall 2024: Research in Political Science Section: L5 (Index: 16469) Professor: LEVY, JACK Credits: · PM - Lec Fall 2024: Research in Political Science Section: L8 (Index: 16470) Professor: LINDSEY, SUMMER Credits: · PM - Lec Fall 2024: Research in Political Science Section: M1 (Index: 16471) Professor: MATOS, YALIDY Credits: · PM - Lec Fall 2024: Research in Political Science Section: M3 (Index: 16473) Professor: MILLER, LISA Credits: · PM - Lec Fall 2024: Research in Political Science Section: M4 (Index: 25089) Professor: MCCABE Credits: · PM - Lec Fall 2024: Research in Political Science Section: S3 (Index: 16474) Professor: SANBONMATSU Credits: · PM - Lec Fall 2024: Research in Political Science Section: S4 (Index: 24660) Professor: SCHUB, ROBERT Credits: · PM - Lec Fall 2024: Research in Political Science Section: S5 (Index: 25530) Professor: SHAH, PARU Credits: · PM - Lec Fall 2024: Research in Political Science Section: T3 (Index: 16475) Professor: TOMASHEVSKIY Credits: · PM - Lec Fall 2024: Research in Political Science Section: V1 (Index: 16476) Professor: VAN HORN, CARL Credits: · PM - Lec Fall 2024: Research in Political Science Section: Z2 (Index: 16478) Professor: ZUKIN, CLIFF Credits: · PM - Lec

16:790:800	0.00	Matriculation Contd	Fall 2024: Matriculation Contd Section: 01 (Index: 16479) Professor: KROOK, MONA Credits: 0.00 · PM - Lec
16:790:811	0.00	Graduate Fellowship	Fall 2024: Graduate Fellowship Section: 01 (Index: 16480) Professor: KROOK, MONA Credits: 0.00 · PM - Lec
16:790:844	0.00	Research Internship	Fall 2024: Research Internship Section: 01 (Index: 16481) Professor: – Credits: 0.00 · PM - Lec
16:790:866	6.00	Full Ga Appointment	Fall 2024: Full Ga Appointment Section: 01 (Index: 16482) Professor: – Credits: 6.00 · PM - Lec
16:790:877	6.00	Full Ta Appointment	Fall 2024: Full Ta Appointment Section: 01 (Index: 16483) Professor: KROOK, MONA Credits: 6.00 · PM - Lec
16:790:878	3.00	Part Ta Appointment	Fall 2024: Part Ta Appointment Section: 01 (Index: 16484) Professor: – Credits: 3.00 · PM - Lec

Political Science UNMA 790J (SGS-UNMA)

POLITICAL SCIENCE UNMA 790J

Degree Program Offered: M.A. in Political Science: Concentration in the United Nations and Global Policy Studies

Please visit the Political Science UNMA website: Master of Arts in Political Science

Director: Roland Rich, Ph.D.
M.A. Program in Political Science - United Nations and Global Policy Studies
Email: rr842@scarletmail.rutgers.edu
Room: Hickman 511 - Phone: (848) 932-1765

Program Description

The M.A. Degree in Political Science - Concentration in the United Nations and Global Policy studies, (UNMA) cultivates career professionals who understand complex global policy topics and who have the hard skills to operate successfully in international organizations, corporations, governments and non-profit institutions. Through rigorous academic training, our graduates develop comprehensive critical thinking, research, and policy analysis

expertise, as well as an extensive knowledge-base of international policies and topics necessary to excel in the arena of international affairs, development, and more. Whether you are a current Rutgers student, a prospective student, an applicant, faculty member, or part of the general public, we invite you to explore our website and discover valuable information about the UNMA program, careers in global policy, profiles of our diverse student body, and much more.

Faculty

Steven Adelkoff, M.B.A., Cornell, J.D., Pittsburgh

Ihab Darwish, Ph.D., CUNY

Amy Higer, Ph.D., Brandeis

Dilafruz Nazarova, LL.M. Essex, Ph.D., Rutgers

Heather Pierce, Ph.D., Missouri

Michael Rossi Ph.D., Rutgers

John Solecki, M.A. Columbia and Tufts

Roland Rich, Ph.D., Australian National

Political Science UNMA 790J (SGS-UNMA)

Degree Requirements

Degree Requirements

Course Requirements for the United Nations and Global Policy Studies M.A. program (UNMA):

36 credits (12 classes)

Required Courses:
16:790:500 Introduction to the United Nations (3)

16:790:501 Theory and Method in the Study of Global Affairs (3)

16:790:599 Capstone Seminar in the United Nations & Global Policy Studies (3)

27 elective credits

Political Science UNMA 790J (SGS-UNMA)

Course Descriptions

Course Descriptions

Core I: Foundation (students must complete all 9 credits/three courses)

16:790:500 ***Introduction to the United Nations (3)***
Students are introduced to the historical, theoretical and practical foundations of the United Nations and discusses UN's influence as an intergovernmental organization for public policy and international norm setting in the areas of security, peacekeeping, human rights, and development among others. It also discusses the UN as a bureaucracy and examines current and potential structural and operational challenges that lie ahead.

16:790:501 ***Theory and Method in the Study of Global Affairs (3)***
This survey course offers an in-depth exploration of the core theories, methods, and debates that shape the study of global affairs. Designed as a foundational seminar, it provides students with a broad overview of the key concepts, analytical frameworks, and methodological approaches essential for understanding the complexities of globalization and its far-reaching impact on politics, economics, society, and culture.

16:790:599 ***Capstone Seminar in the United Nations & Global Policy Studies (3)***
The Capstone seminar is an exit level course that deepens students' engagement with the various concentrations in the Master's degree, with an underlying focus on the question "Does Democracy Matter?" Students are expected to work on several issues through writing a policy brief, a review essay, and delivering an academic lecture.

Core II: Electives (students must complete 27 credits/nine classes)

16:790:510 ***Democracy in Crisis: Problems of Consolidation (3)***
The starting point of this course is Samuel Huntington's taxonomy of three waves of democracy, followed by the discussion of the concept of democratic consolidation. The UN role in the process is also studied throughout the course. Finally, the problem of stalled transitions is examined with students undertaking individual case studies focused on an analysis of what has gone wrong and why.

16:790:511 ***United Nations: Politics, Institutions and Practices (3)***
This course emphasizes politics, institutions, and practices of the UN through the modules on UN documentation, peace and security, rule of law, SDG, and UN career. The course methodology includes active learning, interactive and simulated live sessions, and guest speakers.

16:790:512 ***Politics of Globalization in Theory and Practice (3)***
While respecting the economic discourse that has characterized the discussion of globalization, the course links it to the political aspects impacting both domestic and global governance.

16:790:513 ***Indigenous Political Theory (3)***
This course is focused on theoretical debates about the meaning of the "indigenous" as they relate to political movements in Africa, South America, and the larger Global South.

16:790:514 ***Post-Communist Transitions in Eastern Europe & Central Asia (3)***
This course offers students an opportunity to examine the degrees of democratic development in formerly Communist countries, with special reference to Poland, Serbia, Russia, and Ukraine, and some states of Central Asia.

16:790:515 ***Globalization and Forced Migration (3)***
This course examines the impact of global forced migration on political structures and socioeconomic development, and reviews refugee governance, especially UN HCR protections and refugee status determination.

16:790:516 ***Theories of Democratic Transition and Good Governance (3)***
This course examines the conceptual and theoretical frameworks that seek to explain the processes of democratic transitions, drawing on examples from both Western and non-Western politics.

16:790:517 ***Education for Global Citizenship (3)***
This course explores the highly contested concepts of global citizenship and education. It is premised on a fundamental question: what are the main purposes of education in the 21st century? Is a global citizenry even possible in a world of sovereign nation-states? Is national citizenry possible in a globalized world?

16:790:519 ***Understanding the UN Security Council (3)***
The course examines the work of the UNSC chronologically, thematically, and geographically. The key issues covered include peacekeeping, sanctions, and the use of force, as well as the difficult question of UNSC reform. Key issues to be addressed include R2P (the responsibility to protect) and RN2V (the responsibility not to use the veto).

16:790:520 ***American Foreign Policy (3)***
This seminar covers the main historical patterns in American foreign policy making (AFP) from the Barbary Wars in 1801, to the contemporary currents in the 21 century, including American military and diplomatic history, and current practice in U.S. FP statecraft. This seminar s focused on external as well as internal causal influences on American foreign policy making.

16:790:530 ***International Criminal Law and Anti-Corruption (3)***
This course focuses on the development of international criminal law, particularly in relation to the role of the United Nations. In addition to substantive international crimes such as war crimes and genocide, it also reviews other crimes of international concern such as corruption.

16:790:531 ***Human Trafficking and the United Nations (3)***
This course discusses human rights-related issues of trafficking and analyzes the responsibilities of states and the UN.

16:790:532 ***Democracy, Development and Human Rights (3)***
This course investigates tensions and conflicts between democracy, development, and human rights in theory and practice, drawing on the articulation and work of the United Nations.

16:790:533 ***Islam, Women, and Development (3)***
This course explores the role of women in Islam and their participation in the development of local and global communities.

16:790:534 ***Human Rights and the United Nations (3)***
Focusing on the UN charter and treaty bodies, this course explores the principles, norms, and legal frameworks that govern the protection and promotion of human rights on a global scale.

16:790:535 ***International Women's Rights (3)***
This explores questions, topics, and controversies surrounding women's rights around the world. It asks: In a world where women's disadvantages are often based on structural injustices and cultural practices, what do legal rights really offer women? Will winning cases in court really end discrimination against women and improve the quality of their lives?

16:790:536 ***International Law and the United Nations (3)***
This course examines the origin, design, use, and consequences of international law for a wide range of actors in world politics. The main focus of the course, however, is on the United Nations and more specifically, on the role of the United Nations in the development and maintaining of international legal order.

16:790:537 ***Gender Equality, Women's Empowerment and the United Nations (3)***
This course examines the global dimensions of feminist organizing and policy-making. The course seeks to introduce students to basic concepts and debates on feminism and globalization.

16:790:550 ***Theory and Method in the Study of Conflict Resolution (3)***
This course carefully examines the meaning of conflict, intergroup conflict, violence, peace, and links between theory, research, and practice as applied to conflict resolution.

16:790:551 ***Theories and Practices of International Negotiations (3)***
The course has two purposes: 1) ensure a better understanding by students of the principles and necessities of negotiation, and subsequently 2) help students gain proficiency in conducting negotiation. Theories and models help in the first task while exercises and simulations help in the second.

16:790:552 ***Theories of Military and Diplomatic Policy (3)***
The links between war, statecraft, and diplomacy in formulating grand strategy, seen through historical, social, scientific, and philosophical works are extensively studied in this course.

16:790:553 ***Politics, Economics, and Security in East Asia (3)***
This course examines politics, economics, and security in East Asia through the prism of regionalism and investigates major power politics in a dynamic part of the world.

16:790:554 ***Transitional Justice and Constitutionalism in Globalized World (3)***
Students review competing theories of transitional justice as they relate to questions of constitutionalism in Eastern Europe, the Middle East, and the Global South.

16:790:555 ***Origins of Radicalism and Political Instability in the Contemporary Middle East (3)***
This course examines political and socio-economic trends which have increased radicalism and instability in the contemporary Middle East, as well as possible policies which can address these problems.

16:790:556 ***State Building after Civil Wars: The Role of the UN and the International Community (3)***
This course covers civil wars and its causes, prevention, external intervention, ending wars, peace settlement, peacekeeping, transitional justice and reconciliation.

16:790:558 ***Politics of Cyber Warfare (3)***
This course is focused on cyber warfare - using information technologies against the sovereignty of other nations for the purpose of disabling vital and critical infrastructure and causing instability of services to achieve political objectives.

16:790:570 ***International Trade (3)***
Introduces students to the driving factors of governance and the impact of international trade.

16:790: 571 ***Global Governance of Financial Crisis (3)***
Students are introduced to the manifold political dimensions of global finance with a specific focus on financial crises. This implies the social and political dimension of seemingly technical processes and instruments such as the evaluation of financial products and derivatives, the dynamics of price formation on capital and goods markets, and the securitization of mortgage debt.

16:790:572 ***Politics of Water and Security (3)***
This course focuses on the conceptual framework, theories and empirical evidence linking water, as a vital natural resource, to matters of security, conflict and cooperation in MENA. Domestic and trans-boundary water issues, in addition to international water resource problems are discussed through a number of case studies.

16:790:573 ***Global Business Models and Socially Responsible Investment (3)***
This course introduces and discusses in detail how socially responsible investment, and corporate social responsibility (CSR) in particular, have evolved in recent years, the ethical issues it raises, questioning its standards and methodologies, and evaluating its proposed social and environmental impact.

16:790:574 ***Political Risk Analysis & Business Intelligence (3)***
This is an examination of the various sub-categories that make up political risk as an operational concept and a crucial component of an international business' strategy in new markets.

16:790:575 ***International Business Ethics Regulations and the State (3)***
Students explore critical global ethical and economic issues of our time such as: anti-money laundering; secrecy; tax havens/avoidance; impact investing; energy/climate change; and the economics of water.

16:790:577 ***Youth Social Entrepreneurship and Sustainable Development (3)***
A principle objective of this course is the production of a business plan for the operation of a social entrepreneurial business. Students are required to conceive of a business that meets the definition of social entrepreneurialism, and prepare a full business plan that will build on the themes covered in this class.

16:790: 580 ***Global Environmental Politics and the United Nations (3)***
Students reflect upon a central challenge of our times - environment. Such issues as climate change, protection of biodiversity, and endangered species are global in nature and require a political approach from the global community, including the United Nations, which plays a role in creating an international regime of environmental protection.

16:790:581 ***Political Economy of United Nations Sustainable Development Goals (3)***
This course assesses the process of the development of the sustainable development goals and poverty and inequality elimination in the world. It discusses poverty reduction strategies focusing on the UN ECOSOC tasks and goals.

16:790:582 ***The Politics of Global Food (In) security (3)***
This course examines questions related to global food politics, particularly hunger and food security. Students consider controversial solutions such as food aid, local movements, and genetically modified organisms.

16:790:583 ***Public Health Infrastructures and National Security (3)***
This course studies the dangers which public health infrastructures are exposed to by cyber security attacks. Because public health is a critical component of all nation states, such attacks, which are on the increase, are a topic yet to receive the necessary attention when discussing issues of national security.

16:790:590 ***Research Internship in United Nations and Global Policy (3)***
This course allows students to gain hands-on experience by taking internships with the UN agencies, governmental institutions, NGOs and think tanks and engaging in a supervised research.

Political Science UNMA 790J (SGS-UNMA)

Certificate Requirements

Certificate Requirements

Visit the United Nations and Global Public Health Certificate website.

The UNMA program is partnered with the school of public health who offers the **United Nations and Global Health Certificate**.

It is based in the School of Public Health but students are required to take our courses. We advertise this certificate on our website.

Certificate Curriculum Requirements

UGPH 0600 - Introduction to Global Public Health (3 cr.)

UGPH 0521 - Culture & Health (3 cr.)

UGPH 9000 - Introduction to the United Nations (3 cr.)

HBSP0623 - Cross National Comparisons of Health Systems and Policy (3 cr.)

Choose one of the following 6 courses:

UGPH 9001 - Democracy, Development and Human Rights

UGPH 9001 - Human Rights & the UN

UGPH 9003 - Global Health and International Human Rights

UGPH 9004 - Politics of Water & Security

UGPH 9005 - Global Environmental Politics and the United Nations

UGPH 9008 - Public Health Infrastructures and National Security

Or anther cross-listed UNMA course with permission in advance from the Certificate Coordinator.

Psychology 830 (SGS-PSYCH)

PSYCHOLOGY 830

Degree Programs Offered: M.S., Ph.D.

Please visit the Psychology website.

Program Description

The mission of the Psychology Department faculty is to combine excellence in scientific research with excellence in teaching our graduate students. All students participate in scientific research and the discovery process. Each graduate student works with a primary mentor in one of the four areas within the department. Our faculty members have a strong and consistent record of producing original research and discovery along with federal and private grant support.

Apply

Once admitted into our program, students conduct original research alongside the faculty while taking required and elective courses. Candidacy for the doctorate is granted following successful completion of course requirements, a master's thesis, and the qualifying examination. The graduate program is designed as a 5-year program. Only those individuals willing to work full-time toward the doctorate are encouraged to apply. To explore more about our graduate program details

Degree Types

- **M.S. (Master of Science)**
- **Ph.D. (Doctor of Philosophy)**

Campus Locations

Busch Campus - New Brunswick

Livingston Campus - New Brunswick

College Ave Campus - New Brunswick

Cook/Douglass Campus - New Brunswick

Faculty

Mark Baker, Ph.D., Massachusetts Institute of Technology

Vanessa Bal, Ph.D., Michigan

David Barker, Ph.D., Rutgers

Kasia Bieszczad, Ph.D., California (Irvine)

Brian Chu, Ph.D., Temple

Shana Cole, Ph.D., New York University

Richard Contrada, Ph.D., New York

Lara Delmolino Gatley, Ph.D., Rutgers

Angelo DiBello, Ph.D., Houston

Danielle Dick, Ph.D., Indiana

Maurice Elias, Ph.D., Connecticut

Samantha Farris, Ph.D., Houston

Jacob Feldman, Ph.D., Massachusetts Institute of Technology

Luis Flores, B.A., California (Berkeley); Ph.D., Illinois (Urbana-Champaign)

Robert Foels, Ph.D., Syracuse

Michael Gara, Ph.D., Rutgers

Arnold Glass, Ph.D., Stanford

William Hallman, Ph.D., South Carolina

Jessica Hamilton, B.A., Swathmore College; Ph.D., Temple

Stephen Jose Hanson, Ph.D., Arizona

Pernille Hemmer, Ph.D., California (Irvine)

Denise Hien, Ph.D., Columbia

Rafiq Huda, B.A., Carleton College; Ph.D., Northwestern

Judith Hudson, Ph.D., CUNY

Michelle Hurst, B.Sc., McMaster; Ph.D., Boston

Morgan James, Newcastle (Australia)

Lee Jussim, Ph.D., Michigan

Shalonda Kelly, Ph.D., Michigan

Evan Kleiman, Ph.D., George Mason

Anna Konova, Ph.D., Stony Brook

Calvin Lai, Ph.D., Virginia

Robert Larue, B.A., Rutgers; M.A., Ph.D., Louisiana

Richard Lau, Ph.D., California (Los Angeles)

Alan Leslie, Ph.D., Oxford

Teresa Leyro, Ph.D., Vermont

Bridget Matikainen-Ankney

Lorraine McCune, Ed.D., Rutgers

John McGann, Ph. D., Yale

Melchi Michel, Ph.D., Rochester

Julien Musolino, Ph. D., Maryland

Gandalf Nicolas, B.A., Pontificia; M.A., College of William and Mary; Ph.D., Princeton

Jan Oldenburg, Ph.D., Harvard

Philip Parker, Ph.D., California (San Francisco)

Linden Parkes

Troy Roepke, Ph.D., California (Davis)

Jessica Salvatore

Benjamin Samuels, Harvard

Diana Sanchez, Ph.D., Michigan

Edward Selby, Ph.D., Florida

Tracey Shors, Ph.D., Southern California

Manish Singh, Ph.D., California

Kristen Springer, Ph. D. Wisconsin

Marc Steinberg, Ph.D., South Florida

Matthew Stone, Ph.D., Pennsylvania

Karin Stromswold, Ph.D., Massachusetts

Kristen Syrett, Ph.D., Northwestern

Valerie Taylor

Bruce Tesar, Ph.D., Colorado

Elizabeth Torres, Ph.D., California (San Diego)

Mark Versella, B.A.; M.A., CUNY; Ph.D., Rutgers

David Vicario, Ph.D., Rockefeller

Jinling Wang, Ph.D., Johns Hopkins

Andrew Westbrook

David Wilder, Ph.D., Wisconsin

Min-Jeong Yang, B.A., Hankuk; B.A., M.A., Seoul; M.S., Ph.D., Rutgers

Justin Yao

David Zald

Qiong Zhang

Psychology 830 (SGS-PSYCH)

Degree Requirements

Degree Requirements

Degree Requirements

The Psychology Ph.D. program adheres to the SGS minimum requirements, which include 48 credits of academic coursework and 24 credits of research. Once enrolled, students are expected to maintain full-time status and complete the requirements for a Ph.D. in approximately five years.

While successful students will be recognized with a Ph.D. in Psychology, fulfillment of requirements will be in one of four areas of specialization: social psychology, cognitive psychology, behavioral and systems neuroscience, or clinical psychology. Successful applicants are accepted into one of these areas and will be expected to take the required courses for their area and fulfill research obligations under the guidance of a graduate faculty member affiliated with the area.

Fulfillment of Psychology's requirements varies by area but involves meeting the same three milestones. The **first milestone** is to defend the Master's thesis by the end of the 6th semester. The **second milestone** is to take and pass the qualifying exam, typically by the end of the 8th semester. Each area conducts the qualifying exam differently, but in all areas, passing the exam formally designates the student as a Ph.D. candidate. The **final milestone** is the dissertation defense, which is expected to occur no later than the end of the 10th semester. This is the culmination of several years of research and involves submission to a committee of a written doctoral dissertation and an oral defense of the dissertation . The defense has a public and private component. The former is open to the public and the dissertation committee, while the private or closed defense is held before the candidate's committee. This will involve answering the committee's questions as part of a critical discussion of the dissertation research. If the committee is satisfied with the dissertation and defense, they will sign forms advising SGS that the candidate should be honored with a Ph.D. in Psychology.

In summary, to receive a Ph.D. in Psychology, the student must adhere to the following requirements and timeline:

1. Have an academic and research advisor who is a member of the Psychology program's Graduate Faculty
2. Follow and adhere to their area's academic requirements and training
3. Be research active and regularly report to their advisor
4. Take a total of 48 course credits and 24 research credits
5. Write and present their Master's thesis proposal (by the 3rd semester)
6. Write and defend their Master's thesis (by the 6th semester)
7. Pass a PhD qualifying exam (by the 8th semester)
8. Write and defend a Ph.D. dissertation proposal

9. Write a PhD dissertation and defend their research in front of peers and a dissertation committee (by the 10th semester)

Core courses:

Core courses are determined by the area of study. The area requirements, course timelines, and handbooks can be found using the links below.

- Behavioral and Systems Neuroscience
- Clinical Psychology
- Cognitive Psychology
- Social Psychology

On average, the credit workload per semester is 9 credits, but can vary based on how long the student has been in the program. The credit amount each semester is a combination of research credits and coursework. While the minimum credit requirement is 72, students in the Psychology program are encouraged to limit their total to 75. Exceeding this amount will not guarantee tuition remission by the program.

Psychology 830 (SGS-PSYCH)

Course Descriptions

Course Descriptions

16:830:500 ***Social Psychology Colloquia (N1)***
Series of colloquia, lectures, and panel discussions as an introduction to the discipline and profession of social psychology. Required of all first-year social psychology students.

16:830:501,502 ***Nonthesis Research (BA,BA)***
A course for students engaged in research that is not directly related to master's or doctoral research.

16:830:503,504 ***Advanced Studies in Psychology (3,3)***
Reading and individual study course; students arrange with members of the staff for direction and guidance; regular conferences scheduled; written and oral reports submitted.

16:830:505 ***Theories and Issues in Developmental Psychology (3)***
Models and theory in developmental psychology. Emphasis on metatheoretical and theoretical issues, including theories of cognitive, social, and emotional development.

16:830:506 ***Attitudes and Social Cognition (3)***
Critical survey of concepts and current research in social psychology. Social perception, attitudes and attitude change, and groups.

16:830:507 ***Developmental Research Methodology (3)***
Survey of descriptive and explanatory research methods for the study of behavioral change and development.

16:830:508 ***Research Methods in Social Psychology (3)***
Critical examination of methodological problems in research involving human subjects, including personality, social psychology, and health psychology. Topics include measurement, experimental and quasi-experimental design, operationalization, and threats to validity. Applications to students' research problems.

16:830:509 ***Practicum: Field and Applied Research (3)***
Practical issues encountered in nonlaboratory settings; procedures and statistical analyses useful when true experimental designs cannot be employed; developing research proposals to meet needs of an organization; issues involved in consultation.

16:830:510 ***Introduction to Industrial/Organizational Psychology (3)***
Overview of topics in personnel psychology (predictors, criteria, personnel decisions, interviews, and training) and organizational psychology (motivation, job satisfaction, supervision, and organizational structure).

16:830:511,512 ***Advanced Topics in Developmental Psychology (3,3)***
Selected topics in developmental psychology, emphasizing theory and research. Offered by different faculty members as a special course in their particular area of expertise.

16:830:513 ***Neurolinguistics (3)***
Topics include functional neuroimaging studies of language (PET, fMRT, MEG), acquired and developmental language disorders, the relationship between language development and neural development, language acquisition after the critical period. Prerequisite: Graduate student in psychology, linguistics, neuroscience, or philosophy; or permission of instructor.

16:830:514 ***Sensation and Perception (3)***
Theoretical and experimental approaches to the perception of form, motion, depth, texture, and color.

16:830:515 ***Computational Perception (3)***
Introduction to algorithms for computing environmental shape-from-stimulus cues and regularization procedures for choosing optimally economic solutions as related to the perception of surfaces and objects.

16:830:516 ***Human Infancy (3)***
Current theory and research in infants' socioemotional, motor, perceptual, cognitive, and language development.

16:830:520 ***Principles of Biopsychology (3)***
Survey of current theory and data from the fields of neuropsychology, Pavlovian and operant learning, neuropharmacology, and developmental psychobiology. Not open to biopsychology majors.

16:830:521 ***Research Design and Analysis I (3)***
Review of basic statistical theory, experimental design, and statistical techniques. Topics include descriptive statistics, probability, z-scores, t-tests, correlation, bivariate regression, one- and two-way analysis of variance, and elementary nonparametric analyses.

16:830:522 ***Research Design and Analysis II (3)***
Review of advanced topics in design and analysis, with emphasis on one or more of the following: multiple regression; multiway analysis of variance, including mixed designs and repeated measures; analysis of covariance; factor analysis; cluster analysis; and bootstrapping techniques.

16:830:523 ***Computer Applications in Psychology (3)***
Designed to introduce psychologists to the use of the computer in the control of experiments, simulation, and complex data analysis.

16:830:524 ***Sensory Processes (3)***
Theory and data on the senses treated behaviorally and psychologically.

16:830:527 ***Assessment and Treatment (3)***
This yearlong applications class offers didactic and practical training in evidence-based intervention procedures for the assessment and treatment of older adults with anxiety disorders.

16:830:528 ***Clinical Ethics I (1.5)***
The goals of this course are to (1) develop knowledge of the guidelines, standards, rules, and regulations related to the responsible practice of psychology; (2) develop an increased understanding of what it means to practice ethically; and (3) develop and refine skills needed to recognize and solve problems involving relevant topic areas in regard to ethical and responsible practice.

16:830:529 ***Clinical Ethics II (1.5)***
The primary goals of this course are to (1) develop increased knowledge of the guidelines, standards, rules, and regulations related to the responsible conduct of research; (2) develop core competencies in the responsible conduct of research; and (3) develop and refine skills needed to solve problems involving relevant topic areas of responsible scientific conduct.

16:830:534 ***Psychology of Decision Making (3)***
Contrasts how decisions are actually made (descriptive theories) with optimal methods for decision making (normative theories); covers psychological research on judgments of uncertainty and individual and group decision making.

16:830:535 ***Language and Communication (3)***
Structural properties and processing of language.

16:830:537 ***Adult Descriptive and Experimental Psychopathology (3)***
Systematic consideration of descriptive and experimental psychopathology, consisting of class discussion, student presentations, and research critiques.

16:830:538 ***Child Descriptive and Experimental Psychopathology (3)***
Descriptive and experimental psychopathology of childhood, covering neurotic, psychotic, and antisocial behavior; learning disabilities; child abuse; and mental retardation. Systematic observation of parent and child interviews and evaluations.

16:830:540 ***Mathematical Models of Learning, Perception, and Cognition (3)***
Historical and current status of mathematical models of learning, perception, and cognition.

16:830:541 ***Personality Theory (3)***
Nature, development, and role of theory in personality; major contemporary theories and relevant evidence.

16:830:543 ***Learning Processes (3)***
Principles and applications of Pavlovian conditioning, instrumental learning, and stimulus control. Topics include conditioned drug tolerance, learned helplessness, and cognitive processes in animal behavior.

16:830:546 ***Memory (3)***
Survey of current theories and research in memory and attention.

16:830:547 ***Computational Models of Cognition (3)***
Computational approaches to cognition. Historical development of approach; formalisms, tools, and methodological challenges.

16:830:550 ***Language Development (3)***
Theory and research on the acquisition of speech and language by young children.

16:830:551 ***Personality and Social Development (3)***
Theory and research on personality and social development.

16:830:552 ***Perceptual Development (3)***
Effects of early rearing conditions, phylogenetic development, and development of children's and infants' perception of objects, persons, spatial arrays, pictures, and symbols.

16:830:553 ***Strategies in Cognitive Behavior Therapy (3)***
Research on and applications of a number of behavioral strategies in psychotherapy. Concentrates on individual, adult, and outpatient psychotherapy; treatment of couples; families; and the use of small groups.

16:830:554 ***Development of Cognitive Processes (3)***
Cognitive development, including memory, language, and thinking.

16:830:558 ***Psychopharmacology: Theory and Practice (3)***
Neural, neurochemical, and behavioral bases of psychopharmacology. Peripheral and central nervous neurotransmission mechanisms and animal experimental methods; the application of these methods to human problem areas in the behavioral effects of drugs, including learning, activity, dyskinesia, psychosis, tolerance, abuse, aggression, anxiety, and behavioral toxicology.

16:830:560 ***Emotion and Motivation (3)***
Biological, cognitive, and social aspects of the nature and basis of emotions and emotion-related behaviors.

16:830:567,568 ***Nervous System and Behavior I,II (3,3)***
Neural bases of reinforcement, motor behavior, and ingestive behavior.

16:830:572 ***Clinical Proseminar I (3)***
Basic philosophical issues, current theories of personality, and issues in personality research as they relate to clinical phenomena.

16:830:573 ***Clinical Proseminar II (3)***
Major approaches to personality (psychodynamic, social cognitive) and issues in the field (the unconscious, the self, motivation, personality change). Introduction to the clinical context and the practice of cognitive-behavioral psychotherapy using discussion, demonstrations, and role-playing of techniques such as systematic desensitization, cognitive restructuring, and hypnosis. Open only to clinical psychology students.

16:830:577 ***Health Psychology (3)***
Survey of psychological aspects of physical health/disease; stress-and-coping theory, stress physiology, and stress moderators; health-related behaviors; illness cognition, health care utilization, and interactions with the health care system.

16:830:579 ***Developmental Neuroscience (3)***
Underlying processes that determine the course of behavioral and physiological development.

16:830:580 ***History and Systems of Psychology (3)***
Philosophical and scientific antecedents of modern psychology. Psychological systems of psychology, including structuralism, fundamentalism, behaviorism, gestalt, and psychoanalysis. Recurrent issues in the history of psychology.

16:830:591 ***Current Topics in Psychology (BA)***
Review of recent developments within psychology.
Prerequisite: Permission of instructor.

16:830:595 (S) ***Psychoneuroimmunology (3)***
Functional interactions between the brain and the immune system. Neuroinflammatory effects on neurodegeneration, cognition, and emotion; neuroendocrine and neurotransmitter mechanisms that mediate neural-immune interactions. Kusnecov

16:830:602 ***Psycholinguistics (3)***
Language comprehension and production, including syntactic and semantic analyses.

16:830:610 ***Social Psychology of Organizations (3)***
Social psychological analysis of major approaches to organizations, (e.g., classical and open systems), roles, environment, decision making, leadership, communication, health, conflict, and change.

16:830:611 ***Seminar: Perception (3)***
Selected topics on theory and research in perception.

16:830:612 ***Seminar: Social Psychology (3)***
Each section reviews an area of current research interest in social psychology. Topics vary and may include cardiovascular health psychology, health and social behavior, stress and illness, and social cognition.
Prerequisites: 16:830:506, 508, or permission of instructor.

16:830:615 ***Topics in Social Cognition (3)***
Examination of current theoretical and empirical approaches to social behavior from a cognitive orientation.
Prerequisites: 16:830:506, 546, or permission of instructor.

16:830:616 ***Seminar: Personality (3)***
Critical examination of theories of personality, with particular attention to the relationship between emotion and thought.
Prerequisite: 16:830:541 or permission of instructor.

16:830:619 ***Self & Intergroup Relations (3)***
This course examines social psychological theories and research on the self and intergroup relations. Topics include human motivation, the self in groups, explicit and implicit stereotyping and prejudice, reducing prejudice, social stigma, and strategies for fostering diversity.

16:830:623,624 ***Theory and Practice of Cognitive Behavior Therapy I,II (3,3)***
Analysis of the theoretical and clinical foundations of cognitive behavior theory (CBT); clinical practice of CBT with adult disorders.

16:830:631 ***Implicit Theories and Methods (3)***
The assessment of core constructs identified with social psychology is undergoing a revolution. In a broad sense, this revolution has focused on indirect assessment including response latency techniques (as opposed to self-reports). This course provides (1) a theoretical context for using implicit methods, and (2) “hands-on” training in conducting response latency research.

16:830:632 ***Seminar: Problems of Behavioral and Systems Neuroscience (3,3)***
Critical examination of the literature on a relatively circumscribed topic of current research interest in behavioral neuroscience and systems of the brain.

16:830:635 ***Seminar: Selected Topics in Learning (3)***
Detailed examination of limited research problem areas in learning.

16:830:636 ***Neuroendocrine Responses to Stress (3)***
Psychological factors initiating stress, physiological correlates of stress, and pathological consequences of stress.

16:830:637, 638 ***Seminar: Cognition (3,3)***
Selected topics in cognition and cognitive science, including language, memory, attention, problem solving, thinking, and learning.

16:830:639 ***Cognitive Assessment (3)***
Integration of various means of assessment and communication of assessment findings; recent theory, research, principles of measurement, and sociocultural factors relevant to individual cognitive assessment; administration and scoring of individual intelligence tests, interpretation of findings, and use of findings for intervention.

16:830:646 ***Seminar: Problems in Behavioral Neuroscience (3)***
Current problems in the physiological determinants of behavior. Preparation and presentation of student papers.

16:830:651,652 ***Practicum in Clinical Psychology I,II (BA,BA)***
Second-year students in the clinical Ph.D. program see clients in the program's psychological clinic.

16:830:653 ***Seminar: Problems in Clinical Psychology (BA)***
Current issues relevant to the technical, as contrasted with the professional, aspects of clinical psychology.

16:830:655,656 ***Practicum in Clinical Psychology III,IV (BA,BA)***
Third-year students in the clinical Ph.D. program participate one day a week at a mental health or other human service agency.

16:830:657,658 ***Internship in Clinical Psychology (0,0)***
Eleven months of supervised clinical experience in an approved psychological installation. Prerequisites: 16:830:655,656 and permission of instructor. Required of candidates for the Ph.D. in clinical psychology.

16:830:660 ***Practicum in Developmental Psychology (3)***
Application of the principles of developmental psychology to a practical problem of development.

16:830:700 ***Seminar: Teaching of Psychology (1)***
Required of all first-year students; foundations, methods of evaluation, and experience in the basic aspects of teaching.
Open only to first-year psychology students.

16:830:701,702 ***Research in Psychology (BA,BA)***
Research directly related to master's and dissertation theses.

Psychology 830 (SGS-PSYCH)

Admission

Admission

Deadlines

For best consideration apply by these dates:

APPLICATION TYPE	US APPLICANTS	NON-US APPLICANTS	MERIT-BASED AID
Ph.D.	December 1	December 1	December 1
M.S.	December 1	December 1	December 1

Public Health 832 (SGS-PH)

PUBLIC HEALTH 832

See the Rutgers Health Catalog for information on the Public Health Ph.D. Programs in:

- Biostatistics
- Environmental and Occupational Health
- Epidemiology
- Health Systems and Policy
- Social and Behavioral Health Sciences

Quantitative Biomedicine 848 (SGS-QUANTBIO)

QUANTITATIVE BIOMEDICINE 848

Degree Programs Offered: M.A., Ph.D.

Please visit the Quantitative Biomedicine website.

Program Description

The graduate program in Quantitative Biomedicine is an interdisciplinary program designed for graduate students who wish to embrace the knowledge and quantitative tools of chemistry, physics, mathematics, computational sciences, engineering, and/or statistics to tackle complex, unsolved biological problems. The Quantitative Biomedicine Graduate Program is for students interested in interdisciplinary research, taking advantage of powerful quantitative tool to solve challenging problems in biology and medicine. Our students come from diverse backgrounds and have comparably diverse interests. Thus, the program is designed to individually guide students in customizing their coursework and research to best fit their interests.

Degree Types

Ph.D.: The Master of Science and/or Master of Philosophy in Quantitative Biomedicine will be available only to students enrolled in the existing Ph.D. in Quantitative Biomedicine program; students will not be admitted to it as a Master's program.

Campus Locations

Busch Campus - New Brunswick

Faculty

Zeeshan Ahmed, Ph.D., Vienna

Gabriela Alexe, Ph. D., Rutgers

David Alland, Ph.D., NJMS

Ioannis Androulakis, Ph.D., Purdue

Edward Arnold, Ph.D., Cornell

Gary Aston-Jones, Ph.D., California Institute of Technology

Jean Baum, Ph.D., California (Berkeley)

Debashish Bhattacharya, Ph.D., Simon Fraser

Kenneth Breslauer, Ph.D., Yale

Yana Bromberg, Ph.D., Columbia

Stephen Burley, Ph.D., Oxford

Chang Chan, Ph.D., Princeton

Sunita Chaudhary, Ph.D., California (Davis)

Neeraj Chauhan, Ph.D., Jawaharlal Nehru

Shishir P. S. Chundawat, Ph.D., Michigan

William Craelius, Ph.D., Northwestern

Wei Dai, Ph.D., Baylor College

Tirthankar DasGupta, Ph.D., Georgia Institute of Technology

Subhajyoti De, Ph.D., Cambridge

Monica Driscoll, Ph.D., Harvard

Siobain Duffy, Ph.D., Yale

Shuchismita Dutta, Ph.D., Boston

Richard Ebright, Ph.D., Harvard

Christopher Ellison, Ph.D., California (Berkeley)

Laura Fabris, Ph.D., Padova (Italy)

Mikolai Fajer, Ph.D., California

Paul Falkowski, Ph.D., British Columbia

Zukang Feng, Ph.D., Shanghai

David Foran, Ph.D., Rutgers

Joel Freundlich, Ph.D., Massachusetts Institute of Technology

Zoran Gajic, Ph.D., Michigan

Shridar Ganesan, Ph. D., Yale

Marc Gartenberg, Ph.D., Yale

Panagiotis Georgopoulos, Ph.D., California Institute of Technology

Nasrin Ghesani, M.D., Government Medical College (India)

David Goodsell, Ph.D., California (Los Angeles)

Derek Gordon, Ph. D., New York (Stony Brook)

Kenneth Irvine, Ph.D., Stanford

Mehdi Javanmard, Ph.D., Stanford

Jason Kaelber, Ph.D., Baylor College

Sagar Khare, Ph.D., North Carolina (Chapel Hill)

Hossein Khiabanian, Ph.D., Brown

S. David Kimball, Ph.D., SUNY (Stony Brook)

John Kolassa, Ph.D., Chicago

Anat Kreimer, Ph.D., Columbia

Arkadiusz (Arek) Kulczyk, Ph.D., Cambridge

Joel Lebowitz, Ph.D., Syracuse

Jeehiun Lee, Ph.D., Harvard

KiBum Lee, Ph. D., Northwestern

Sang-Hyuk Lee, Ph.D., New York University

David Lukac, Ph.D., Pennsylvania

Michael Manhart, Ph.D., Rutgers

Dimitris Metaxas, Ph.D., Toronto (Canada)

Keith Mickolajczyk, Ph.D., Pennsylvania

James Millonig, Ph.D., Princeton

Aaron Milstein, Ph.D., California

Konstantin Mischaikow, Ph.D., Wisconsin (Madison)

Antonina Mitrofanova, Ph.D., New York University

Alexandre Morozov, Ph.D., Washington

Vikas Nanda, Ph.D., Johns Hopkins

Andrew Nieuwkoop, Ph.D., Illinois (Urbana)

Wilma Olson, Ph.D., Stanford

Zhiping Pang, Ph.D., Texas (Southwestern)

Smita Patel, Ph.D., Tufts

Vladimir Pavlovic, Ph.D., Illinois

Ezra Peisach, Ph.D., Brandeis

John Pintar, Ph.D., Oregon

Arnold Rabson, M.D., Brown

Fred Roberts, Ph.D., Stanford

Charles Roth, Ph.D., Delaware

Monica Roth, Ph.D., Albert Einstein

Anirvan Sengupta, Ph.D., Tata Institute (India)

Chenghua Shao, Ph.D., Boston

Troy Shinbrot, Ph.D., Maryland

David Shreiber, Ph.D., Pennsylvania

Ann Stock, Ph.D., California (Berkeley)

Judith Storch, Ph.D., Columbia

Xiaoyang Su, Ph.D., Cornell

Zoltan Szekely, M.D., Albert Szent-Gyorgyi

Jay Tischfield, Ph.D., Yale

Andrew Vershon, Ph.D., Massachusetts Institute of Technology

Michael Verzi, Ph.D., California (San Francisco)

Lu Wang, Ph.D., Wisconsin (Madison)

Sijian Wang, Ph.D., Michigan

William Welsh, Ph.D., Pennsylvania

Shuo Xiao, Ph.D., Georgia

Jinchuan Xing, Ph.D., Louisiana (Baton Rouge)

Jason Yang, Ph.D.,Virginia

Martin Yarmush, Ph.D., Rockefeller; M.D., Yale

Darrin York, Ph.D., Toronto

Jasmine Young, Ph.D., Florida

Mikel Zaratiegui, Ph.D., Navarra, (Spain)

X. F. Steven Zheng, Ph.D., Harvard

Degree Requirements

Degree Requirements

The Ph.D. requires 72 credits, of which a minimum of 28 credits of academic courses (at least a B average required; 24 of these course credits must be 500 level or above) and a minimum of 24 research credits must be completed. A written doctoral thesis is required. The Ph.D. degree is usually done on a full-time basis and requires four to five years.

Completing the Ph.D. is a multi-step process that requires the candidate to identify a thesis advisor (who is a full member of the QB graduate program faculty) and join their research group/laboratory by the end of the first year. The student will pass an admission-of-candidacy exam taken after most course requirements are completed, usually the end of second year of the program. The exam has both written thesis proposal and oral defense components.

After the qualifying exam, the student and their Thesis Advisory Committee meet regularly to evaluate student's progress. The Ph.D. culminates with a written doctoral thesis and the candidate doing a defense of their research to an audience of faculty and students. The student will submit their Ph.D. dissertation to his/her committee members and defend his/her thesis work in a public oral presentation of approximately 45 to 60 minutes in duration, demonstrating expertise in the meaning of his/her research and in relevant areas of knowledge. The thesis should be distributed and the date for this component of the qualifying exam should be set up with the committee members at least three weeks before the scheduled date of the exam.

Quantitative Biomedicine 848 (SGS-QUANTBIO)

Course Descriptions

Course Descriptions

16:848:616:01 ***Seminar in Quantitative Biomedicine (1 credit, taken 6 times)***
This course consists of attending weekly seminars of the IQB seminar series (at least 6 of which are followed by lunch with the speaker). The student will provide a written assignment on each of the seminars. For any missed seminars, students will be required to review the recording or if a recording is unavailable, complete an equivalent assignment. The IQB seminars are interdisciplinary in nature and illustrate the value of using multiple approaches to solving problems in biology. Lunch with the speaker after the seminars is an important source of education, confidence-building, and enjoyment.

16:848:621 & 622 ***Research Rotations: (1 credit per rotation (typically ~7 weeks) = 3 credits in 1 semester, taken 2 twice)***
In the first year, students engage in 3 rotations. Rotations provide the opportunity to explore research in the quest of finding a research group in which to do one's dissertation research. The format for lab rotations varies depending upon the research group. Students may be given an independent laboratory or theoretical research project and/or may assist other members of the lab in data acquisition and analysis. During this time, the student attends and participates in laboratory group meetings and related events. Students are responsible for arranging their own laboratory rotations by contacting faculty with whom they are interested in having rotations. Students should talk with faculty about their interest at the beginning of the first year (or, better yet, before arriving), as labs fill up quickly.

16:848:601 & 615 ***Interdisciplinary Quantitative Biology Boot Camp: (1)***
Attendance of at least one Interdisciplinary Quantitative Biology Boot Camp provided by the Institute for Quantitative Biomedicine. This one-week boot camp consists of evolving areas of focus consisting of lectures, hands-on workshops, collaborative exercises, a student-organized final presentation, and daily career-training sessions.

Quantitative Biomedicine 848 (SGS-QUANTBIO)

Admission Deadlines

Admission Deadlines

APPLICATION TYPE	US APPLICANTS	NON-US APPLICANTS	MERIT-BASED AID
Ph.D.	January 15	January 15	January 15

Quantitative Biomedicine 848 (SGS-QUANTBIO)

Course List

Course List

For the most up to date information about courses please visit the QB program page.

Religious Studies 840 (SGS-RS)

RELIGIOUS STUDIES 840

Degree Programs Offered: M.A.

Please visit the Religious Studies website.

Program Description

The Department of Religion at Rutgers University offers M.A., B.A./M.A., and certificate programs in Religious Studies.

1. M.A. in Religious Studies

The Religious Studies M.A. program at Rutgers provides an intensive immersion in the discipline. Working closely with a world-class faculty who specialize in Hinduism, Islamic Studies, Judaic and Christian Studies, Buddhist Studies, Chinese religions, and religions in America, students in the M.A. program undertake advanced study and research in those areas. In addition, students will develop a critical understanding of the primary interpretive models, theories, and methodologies in the academic study of religion. This is a two-year program requiring a minimum of 30 credits (10 courses) to graduate.

2. Dual Degree (B.A./M.A.) Program

Qualified undergraduate religion majors at Rutgers can apply to the Dual Degree B.A./M.A. program in Religious Studies in their junior year. This program makes it possible to complete the 30 credits required for the M.A. degree in as little as one year after receiving the B.A. Students considering applying for the Dual Degree program are advised to consult with the Director of Graduate Studies early in their junior year or prior.

3. Graduate Certificate Program

The department also offers a graduate certificate in Religious Studies comprising 12 credits (4 courses).

Degree Types

- M.A. (Master of Arts)
- Dual Degree B.A./M.A.
- Graduate Certificate

Campus Locations

College Ave Campus - New Brunswick

Faculty

Debra Ballentine, Ph.D., Brown

Edwin Bryant, Ph.D., Columbia

Sylvia Chan-Malik, Ph.D., California (Berkeley)

Jessey Choo, Ph.D., Princeton

Diane Fruchtman, Ph.D., Indiana

Charles Haberl, Ph.D., Harvard

Tao Jiang, Ph.D., Temple

Tia Kolbaba, Ph.D., Toronto

D. Christian Lammerts, Ph.D., Cornell

Brian Leftow, Ph.D., Yale

Xun Liu, Ph.D., California

Jawid Mojaddedi, Ph.D., Manchester

Gary Rendsburg, Ph.D., New York

Sandra Russell-Jones, Ph.D., Pennsylvania

Julia Stephens, Ph.D., Harvard

Hilit Surowitz-Israel, Ph.D., Florida

Emma Wasserman, Ph.D., Yale

Joseph Williams, Ph.D., Florida

Azzan Yadin-Israel, Ph.D., California (Berkeley)

Dean Zimmerman, Ph.D., Brown

Religious Studies 840 (SGS-RS)

Degree Requirements

Degree Requirements

Degree Requirements

The completion of a minimum of **thirty course credits** is required of all students pursuing a Master's Degree in Religion.

M.A. Students are required to take ten courses that comprise these thirty credits:

- All students are required to take "Theory and Method in the Study of Religion" (16:840:501).
- A combined maximum of two graduate-level courses may be taken in other Rutgers departments (or other universities, e.g., through the Princeton-Rutgers Exchange), subject to the approval of the Graduate Director.*
- 400-level courses taught by full-time department faculty may be counted toward graduate credit, provided that additional work is performed (e.g., additional readings and a 25-page term paper).
- Subject to the approval of the Graduate Director, a maximum of two upgraded 300-level undergraduate courses may be taken for credit toward the M.A.
- Combined 300- and 400-level courses may not exceed 12 credits.
- Only one independent study course is normally allowed.
- All students are required to complete either:
  a) A 6-credit thesis (840:701, 840:702) taken during the last two semesters and for which students must apply to the Thesis Proposal Committee thirteen months before completion of the M.A. (for full-time students on the 2-year program, this will mean the second semester of study). Please refer to the M.A. with Thesis Timeline.
  OR
  b) A 3-credit capstone project (840:703) taken in the last semester of study. The capstone project requires close consultation with the adviser, but no formal application to a committee. Please refer to the M.A. with Capstone Timeline.

*To encourage language training, which is especially important for those who want to pursue a Ph.D., relevant language coursework at the 300-level or higher may count towards the M.A. degree. Language course credits require the approval of the graduate director in consultation with the student's thesis supervisor, and students need to consult with their thesis supervisors to determine what language(s) to study and at what level.

Our faculty members work with texts written in Arabic, Burmese, Chinese, French, German, Greek, Hebrew, Hindi, Italian, Japanese, Latin, Pali, Persian, and Sanskrit as well as other classical and vernacular languages, and can direct independent readings in these languages. Languages regularly taught at Rutgers include Arabic, Chinese, French, German, Greek, Hebrew, Hindi, Japanese, Korean, Latin, Persian, and Sanskrit.

Course Descriptions

Course Descriptions

Department of Religion Graduate Courses

840:501 ***Theory and Method in the Study of Religion*** **(3)**
Engages with prominent theories that have attempted to explain "religion" and religious phenomena. These include models rooted in social, psychological, economic, political, orientalist, structuralist, and post-structuralist explanatory paradigms. The course also considers methodologies central to the field of Religious Studies.

840:505 ***Apocalypticism: Religious Movement and the End of Time*** **(3)**
Ancient, medieval, and contemporary apocalyptic literature and movements with particular attention to theories of apocalypticism and millenarian movements.

840:506 ***Western Encounter with Hinduism*** **(3)**
This course will consider the encounter with and reaction to various forms of Hinduism that have filtered to the West, from the earliest references in Greek sources to the late colonial period.

840:514 ***Origins of Western Morality*** **(3)**
This course introduces various "Western" moral paradigms, interrogating their development over time, their influences, and the influence they have had. Students will consider the development and transmission of varied ideas about human flourishing, virtue, sexual ethics, wealth/poverty, freedom and enslavement, and gender norms.

840:515 ***Christians, "the other", and Violence in Historical Context*** **(3)**
The ways that Christians have described and rejected the "other" (Jews, heretics, Muslims, "secular humanists"), emphasizing historical continuities and Differences from the earliest Christian texts through the Protestant Reformation.

840:516 ***U.S. Evangelicalism in a Global Age*** **(3)**
Examines history of U.S. evangelicalism in the twentieth and twenty-first centuries, focusing on the impact of transnationalism and other globalizing trends, and on adherents' influence around the world.

840:521 ***Yoga: From Vedic Origins to Western Transplantation*** **(3)**
This course will undertake a close reading of Yoga as presented in the traditional Hindu sourcebook on the subject, the 3rd-century Yoga Sutras, where it is defined as the stilling of all states of mind (meditative practices), along with the primary commentaries that have elaborated on the source text over the centuries prior to the colonial period. It will additionally trace the development of representations of Yoga from these pre-modern expressions, through its appropriation and reconfiguring by Hindu nationalists, and into its modern Western transplanted form as primarily postural exercise.

840:522 *Origins of Morality in Early Chinese Religion* (3)
This course closely examines major religious texts in early China, traditionally categorized as Confucian, Mohist, and Daoist (Taoist). Focus on the following topics: ritual and its centrality in early China, human nature, Mandate of Heaven, spiritual freedom, filial piety, Differentiated caring, universal care.

840:527 *Religious Pluralism in America* (3)
Religious pluralism in North America and especially the United States, focusing on interpretive paradigms and methodologies employed by scholars assessing the role of pluralism throughout American religious history.

840:541 *Minorities in the Middle East* (3)
Students will examine various ethno-religious and linguistic minority groups in the Middle East, their origins, their oral and written literatures, their recent history (from 1798 onwards), their current status, and their future prospects, and how these factors influence their experiences of and perspectives on the world.

840:549 *Sanctifying Violence and Biblical Tradition* (3)
The relationship between biblical traditions and sanctifying violence, through critical analysis of how violent acts may be justified by appeal to notions of the divine. Instances of ritual violence and sanctified combat from ancient Mesopotamian literature, iconography, and the Bible, as well as the use of biblical "scripture" to frame violence within early Jewish and Christian traditions. Current comparative and theoretical discussions of religious violence.

840:551 *Women and Gender in Western Religions* (3)
An examination of the status of women in Judaism, Christianity, and Islam, both historically and today. The course uses feminist theory and theology to analyze the impact of gender roles and expectations, in addition to using gender itself as a primary category for understanding religion.

840:556 *Islamic Spirituality* (3)
The historical development of the mystical traditions, with a particular interest in their relationship to the dominant forms of scholastic Islam over the centuries. The most influential theories of mysticism in relation to Islamic theological dogmas, on the basis of English translations of Arabic and Persian primary sources. The diversity of Sufisms as well as the spiritual traditions outside of Sufism among Shi'i Muslims.

840:557 *Krishna* (3)
This course will examine how the figure of Krishna is embedded in the Hindu tradition through a wide range of sources spanning varied regional and cultural contexts over two millennia.

840:558 *Bhagavad Gita* (3)
This course will study the Bhagavad Gita in its entirety along with its primary traditional interpreters. Readings will discuss the Gita's reception in the Western world, and its adoption by prominent modern Hindu spokespersons.

840:565 *Law and Religion in Asian History* (3)
Examines recent scholarship concerning the relationship between religion and law in Asian history.

840:569 *Buddhist Philosophy* (3)
Major Philosophical schools of Buddhism, especially Mahayana Buddhism, including Madhyamaka, Yogacara, and Chan/Zen. Focus on core concepts and their developments: Dependent Origination, Impermanence, Emptiness, No-Self, Karma, and Buddha Nature.

840:570 *Buddhism, Society, and Politics in Southeast Asia* (3)
Examines the social and political histories of Theravāda Buddhism in Southeast Asia.

840:574 *Islamic Thought* (3)
Examines critically the development of Islamic intellectual traditions, from the first writings of the scholastic theological disciplines of theology and jurisprudence to contemporary reformist discourses.

840:575 *Buddhism and the Family* (3)
Examines the relationship of Buddhism and the family in interdisciplinary and comparative contexts, across Asia, from antiquity to the present.

840:580 R*eligious Healing in the U.S.* (3)
Examines the history of religious healing in the United States, including the evolving relationship between religious healing and biomedicine. Also introduces various theoretical approaches to the study of religious healing.

840:581 *Religion, Law, and the American Constitution* (3)
This course studies the role of religion in the interpretation of the American Constitution from the 19th century to the present, using both cases explicitly related to religion and cases in which the parties are motivated by religious belief, including cases involving reproductive rights.

840:593 *Topics in the Study of Religion* (3)

840:594 T*opics in the Study of Religion* (3)

840:595 *Independent Study* (3)

840:596 *Independent Study* (3)

840:701 *Research in Religion* (3)

840:702 *Thesis in Religion* (3)
These two courses must be taken consecutively, usually in the final two semesters, for the 6-credit M.A. with thesis option.

840:703 *Capstone Project in Religion* (3)
This course must be taken, usually in the final semester, for the 3-credit M.A. without thesis option.

Religious Studies 840 (SGS-RS)

Admission Requirements

Admission Requirements

Applicants to the M.A. program in Religious Studies should normally have an undergraduate GPA of at least 3.0.

Application materials must include:

- A completed online application form
- Official transcripts from previous colleges and universities the applicant has attended

- Two letters of recommendation
- A personal statement (1–2 pages in length). Please ensure that the statement addresses the applicant's intended area of focus in Religious Studies.
- The application fee
- International Students for whom English is a foreign language will need TOEFL or IELTS scores demonstrating English proficiency.
- M.A. program code: 16841
- Dual Degree B.A./M.A. program code: 168413
- Certificate program code: 16841C

Religious Studies 840 (SGS-RS)

Admission Deadlines

Admission Deadlines

Deadline for Fall admission: April 1

Deadline for Spring admission: October 1

Social Work 910 (SGS-SW)

SOCIAL WORK 910

See Doctoral Program (Ph.D.) in the School of Social Work section of this catalog.

Sociology 920 (SGS-SOCIOLOGY)

SOCIOLOGY 920

Degree Programs Offered: M.A., Ph.D.

Please visit the Sociology website.

Program Description

The Sociology Graduate Program at Rutgers helps students to develop a distinct sociological voice while becoming creative and competent working sociologists. We are a broad and diverse department organized around a number of overlapping research areas and we encourage students to find their own distinct location in the rich intersections of the department.

Apply

Degree Types

- Ph.D. (Doctor of Philosophy) with an M.A. (Master of Arts) degree earned along the way

Campus Locations

Cook/Douglass Campus - New Brunswick

Core Faculty

Catherine Bliss, Ph.D., New School for Social Research

Steven Brechin, Ph.D., Michigan (Ann Arbor)

Ethel Brooks, Ph.D., New York University

Sharon Bzostek, Ph.D., Princeton

Jeanette Covington, Ph.D., Chicago

Kevin Dahaghi, Ph.D. Texas (Austin)

Thomas Davidson, Ph.D., Cornell

Zaire Dinzey-Flores, Ph.D., Michigan (Ann Arbor)

Jeffrey Dowd, Ph.D., Rutgers (New Brunswick)

Danielle Falzon, Ph.D., Brown

Emily Handsman, Ph.D., Northwestern

Paul Hirschfield, Ph.D., Northwestern

Karam, Hwang. Ph.D., North Carolina

Leslie Jones, Ph.D., Pennsylvania

Joanna Kempner, Ph.D., Pennsylvania

Eleanor LaPointe, Ph.D., Rutgers (New Brunswick)

Catherine Lee, Ph.D., California (Los Angeles)

Lei Lei, Ph.D., SUNY (Albany)

Jacquelyn Litt, Ph.D., Pennsylvania

Norah MacKendrick, Ph.D., Toronto

Quan Mai, Ph.D., Vanderbilt

Ricardo Martinez-Schuldt, North Carolina

Paul McLean, Ph.D., Chicago

Dawne Mouzon, Ph.D., Rutgers (New Brunswick)

Julie Phillips, Ph.D., Pennsylvania

Zakia Salime, Ph.D. Illinois (Urbana-Champaign)

Hana Shepherd, Ph.D., Princeton

Kristen Springer, Ph.D. Wisconsin (Madison)

Arlene Stein, Ph.D., California (Berkeley)

Affiliated Faculty

Robert Apel, Ph.D., Maryland

Melissa Aronczyk, Ph.D., New York University

Emily Bosk, Ph.D., Michigan

Dana Britton, Ph.D., Texas (Austin)

Mary Chayko, Ph.D., Rutgers

Stephen Crystal, Ph.D., Harvard

Vikki Katz, Ph.D., California

Deepa Kumar, Ph.D., Pittsburgh

Jeffrey Lane, Ph.D., Princeton

Jody Miller, Ph.D., California

Lenna Nepomnyaschy, Ph.D., Columbia

Emily Parker, Ph.D., Cornell

Ethan Schoolman, Ph.D., Michigan

Rachael Shwom, Ph.D., Michigan

Todd Vachon, Ph.D., Connecticut

Sara Wakefield, Ph.D., Minnesota

Sociology 920 (SGS-SOCIOLOGY)

Degree Requirements

REQUIREMENTS FOR PROGRAM COMPLETION: 2-4-6 PLAN

A. MA Requirements

1. Soc. 501 - Sociological Research Methods
2. Soc. 503/504 – Second Year Paper (Master's Paper) Seminar
3. Soc. 515 - Classical Sociological Theory

4. Soc. 516 - Contemporary Sociological Theory
5. Soc. 541 - Statistical Methods in Sociology
6. Soc. 542 – Statistical Methods in Sociology II

b. Four elective courses: Regarding specific courses, 1 course may be an Independent Study, and up to 2 may be outside the department.

c. First-year student Proseminar (register with the Graduate Program Director for one research credit each semester)

d. Attendance at all or close to all departmental Colloquium events.

e. QP1 (also sometimes known as the Second Year Paper or Master's Thesis)

B. Ph.D. Requirements

a. All requirements for the M.A. degree

b. One additional required courses *with a grade of B or above*

One other methods/statistics course from the following list (or newly approved methods courses in Sociology as they arise). These currently include:
1. Soc. 520 – Comparative Historical Methods
2. Soc. 573 – Ethnographic Methods
3. Soc. 615 – Qualitative Research Methods
4. Soc. 616 – Social Network Analysis
5. Soc. 617 – Computational Sociology
6. Soc. 6xx – Multilevel and Longitudinal Data Analysis
7. Students may request to use an intermediate/advanced statistics courses at RU-Newark in the Criminal Justice program to fulfill this requirement
8. An approved methods course offered in one of the other Social Science departments at Rutgers—New Brunswick

c. Five additional elective courses; 1 may be an Independent Study, and up to 2 may be outside the department. As noted above, and discussed below in Section V. subsection D, no more than three courses from outside the department may be taken for credit over the course of the student's entire career in the department.

d. One semester of a Writing Seminar (503/504 or 703) (see section V, subsection E below for more details on the Writing Seminar).

e. 24 research credits (these do not substitute for course or Independent Study credits. See section V. 4 below for more details.)

f. QP2 (also sometimes called the Second Qualifying Paper (see section VI on Qualifying Papers for details)

g. Dissertation proposal defense

Course Descriptions

Course Descriptions

16:920:501,502 ***Sociological Research Methods I,II (3,3)***
Seminar aims to provide an introduction to social research. How do sociologists think conceptually and practically as they develop a research idea to producing a publishable product? It explores both the art and craft that every scholar must learn to navigate.

16:920:503,504 ***Selected Sociological Problems (3,3)***

16:920:505,506 ***Individual Studies in Sociological Theory (3,3)***
Prerequisite: Permission of instructor. For graduate students wishing to pursue advanced coursework in fields where no advanced courses are provided.

16:920:511,512 ***Proseminar in Sociology (3,3)***
Selected special topics in sociology.

16:920:513 ***Practice Applied Sociology Research (3)***

16:920:515 ***Classical Sociological Theory (3)***
Discussion of the major figures who shaped sociological theory from the mid-19th century to the first three decades of the 20th century.

16:920:516 ***Contemporary Sociological Theory (3)***
Survey of the dominant lines of theoretical development in contemporary sociology.

16:920:517 ***Sociology Theory T Parsons (3)***

16:920:518 ***Third World Sociology Systems (3)***

16:920:519 ***SEM Based Stratification (3)***

16:920:520 ***Comparative and Historical Methods (3)***
Philosophical, theoretical, and methodological issues involved in sociological explanations of the development of social systems over time.

16:920:522 ***Sociology of Science (3)***

16:920:523 ***Sociology of Health (3)***
Social correlates of health and illness in the United States; major social roles and organizational structures concerned with health and medical care.

16:920:524 ***Sociology of Organizations (3)***
Basic survey of the sociology of organizations, with emphasis on current developments.

16:920:526 ***SEM Symbolic Interactions (3)***

16:920:528 ***Marriage and the Family (3)***
Review of the basic concepts and research in the field of marriage and the family.

16:920:529 ***Issues in Social Psychology (3)***
Intensive lecture and discussion course surveying social psychology, with an emphasis on the interrelations among individuals, groups, and society.

16:920:532 ***Sociology of Urban Environment (3)***

16:920:533 ***Society Problems & Alcohol (3)***

16:920:534 ***Seminar of Comparative Organizations (3)***

16:920:535 ***Professions (3)***
Development and functions of professions in advanced industrial societies. Alternative theories of professionalism evaluated against the background of sociological studies of different professions, such as medicine, law, social work, psychology, education, nursing, engineering, management and planning, the clergy, and the artistic professions.

16:920:538 ***Law and Society (3)***

16:920:539 ***SEM Deviance and Social Control (3)***

16:920:541-542 ***Statistical Methods in Sociology I, II (3,3)***
Application of classical and modern statistical techniques to the analysis of sociological data. Problems of optimal fitting of technique to level and quality of data emphasized. First semester: bivariate techniques, up to and including the analysis of variance. Second semester: multivariate techniques, multiple regression, and the general linear model. Laboratory exercises required.
Prerequisite for 16:920:542: 16:920:541 or permission of instructor.

16:920:550 ***Practicum in Teaching Sociology (3)***
Trains sociology graduate students to teach, with a specific emphasis on clear presentations, logical arguments, and day-to-day pedagogical issues.

16:920:570,571,572,573 ***Special Topics in Sociology (3,3,3,3)***

16:920:574,575,576, 577 ***Topics in Sociology (1.5,1.5,1.5)***

16:920:577 ***Topics in Sociology (3)***

16:920:602 ***Culture, Symbols, and Social Interaction (3)***
Examines several dimensions of the complex interaction between the social and cultural spheres. Focuses on the ways in which norms, gestures, and symbol's structure interpersonal encounters; the symbol systems that make possible large-scale interaction between social members; the ways in which social structure orders interactions; and the ways in which technology can mediate social interactions.

16:920:603 ***Sociology of Religion (3)***
Religious belief systems and forms of social organization in historical and cross-cultural perspective; public religious behavior and private spiritual practice; old and new religious movements; relationship between religion and other major social institutions (especially the political and the economic).

16:920:608 ***Sociology Found Mental Illness (3)***

16:920:609 ***Sociology of Adolescence (3)***

16:920:610 ***Social Development (3)***

16:920:611 ***Criminology and Corrections (3)***
Theories of criminality and methods of treatment and prevention within the context of the general analysis of deviance and social control.

16:920:612 ***Social Deviance and Social Control (3)***
Conditions under which people tend to conform or deviate; probable consequences of deviance and social control for both deviants and conformists.

16:920:613 ***The Sociology of Age (3)***
Theory of age stratification, age structure of the society, aging of individuals, and connections between aging and various social processes and social institutions.

16:920:614 ***Seminar in Race and Ethnic Relations (3)***
Analysis of race and ethnic relations from a comparative perspective; contemporary theory, issues, and problems.

16:920:615 ***Seminar in Qualitative Research Methods (3)***
Discussion and guided practice in the collection and analysis of qualitative data. Major attention on research designs employing participant observations and/or in-depth interviewing. Case studies reviewed; collection and analysis of data from a field research study.

16:920:618 ***Sociology of Gender (3)***
Cross-cultural and historical analysis of gender roles; gender in modern society; gender roles and social institutions; work, family, religion, politics, and education. A range of theoretical and empirical approaches included.

16:920:619 ***Social Science and Public Politics (3)***

16:920:620 ***Social Theory & Social Problems (3)***

16:920:621 ***Sem Community & Environment (3)***

16:920:623 ***Introduction to Population (3)***

16:920:624 ***Demographic Analysis (3)***

16:920:625 ***Women & Development (3)***

16:920:626 ***Personality & Social Structure (3)***

16:920:627 ***Sociology of Socialization (3)***
Study of socialization as a concept and as a process; the socialization of children and adults; variations in socialization among cultures, socioeconomic status groups, and types of social groups.

16:920:628 ***Sem Ethnic Prejudice (3)***

16:920:630 ***Soc Industrialize Development (3)***

16:920:631 ***Sociology of Mental Illness (3)***
Study of the epidemiology of psychiatric disorders, help-seeking processes for mental illness, social responses to the mentally ill, and social policy issues in the mental health field.

16:920:632 ***Sociology of Work (3)***
Meaning and organization of work; the division of labor: who does what and how; interactions among occupations; and the quality of work life in industrial societies.

16:920:633 ***Seminar in Social Science Data Analysis (3)***
Advanced topics in quantitative reduction and analysis of data generated by research in the various social sciences. Topics chosen from, but not limited to, loglinear analysis, structural equations models, panel analysis, network analysis, time-series analysis, and continuous-time process models. Initial sessions focus on developing the basics of matrix algebra upon which most of these techniques rely. Prerequisite:16:920:542 or permission of instructor.

16:920:635 ***Comp Org & Sci Prof (3)***

16:920:636 ***Problems in the Sociology of Knowledge (3)***

16:920:637 ***Soc Structure & State (3)***

16:920:638 ***Amer Working Class (3)***

16:920:640 ***Sociological Perspectives on Feminist Theory (3)***
Detailed examination of major feminist theories, with an emphasis on contemporary feminist thought.

16:920:641 ***Political Sociology (3)***

16:920:643 ***Organizations & Environment (3)***

16:920:645 ***Drugs and Society (3)***
Examination of causes and consequences of illegal drug use; how drugs came to be criminalized; the current system of drug prohibition in the United States; and alternatives to prohibition, such as decriminalization and legalization.

16:920:646 ***(S) Cognitive Sociology (3)***
Social context of thinking, focusing on specific cognitive processes: classifying, framing, symbolizing, time reckoning, perceiving, attending, remembering, and making sense. Draws on sociology of knowledge, phenomenological sociology, ethnomethodology, sociology of science, symbolic interactionism, semiotics, symbolic anthropology, and linguistics.

16:920:651 ***Soc Cult Compon Health (3)***

16:920:667 ***Soc Int & Ind Behavior (3)***

16:920:701,702 ***Research in Sociology (BA, BA)***
Required of all students engaged in Ph.D. dissertation research.

16:920:703 ***Writing Seminar (BA)***
Sharpen writing and publishing skills as professional sociologists. Writing and rewriting doctoral qualifying papers and dissertation proposals.

Sociology 920 (SGS-SOCIOLOGY)

Admission Deadlines

Admission Deadlines

APPLICATION TYPE	US APPLICANTS	NON-US APPLICANTS	MERIT-BASED AID
Ph.D.	December 1	December 1	December 1

Sociology 920 (SGS-SOCIOLOGY)

Course List

Course List

Required Courses (Offered once a year)

Classical Sociological Theory (McLean, Shepherd)

Contemporary Sociological Theory (McLean, Shepherd, Salime)

Professional Writing for Sociology / Writing Seminar (Shepherd, Kempner, MacKendrick)

Second Year Paper Seminar, Fall Semester (Lee, MacKendrick, Shepherd)

Second Year Paper Seminar, Spring Semester (Lee, MacKendrick, Shepherd)

Social Research Methods (Shepherd, Falzon, Handsman, MacKendrick)

Statistical Methods in Sociology I (Davidson, Lei, Mai, Martinez-Schuldt)

Statistical Methods in Sociology II (Davidson, Lei, Martinez-Schuldt)

Recent Elective Courses

Spring 2026

Qualitative Methods (MacKendrick)

Education and Inequality (Handsman)

Environmental Sociology (Falzon)

Fall 2025

The Sociology of Punishment (Dahaghi)

The Politics of Reproduction (Lee)

The Sociology of Work, Occupations, and Labor Markets (Mai)

Fall 2024

Rutgers University

Digital Ethnography (Jones)

Multilevel and Longitudinal Data Analysis (Lei)

Political Sociology (McLean)

Spring 2024

Environment and Development (Falzon)

Sociology of Health and the Body (Kempner)

Computational Sociology (Davidson)

Fall 2023

Qualitative Methods (MacKendrick)

Work, Occupations, and Labor Markets (Mai)

Spring 2023

Multilevel and Longitudinal Data Analysis (Lei)

Inequality, Health, and Population (Mouzon)

Gender and Sexuality (Stein)

Neighborhoods and Crime (Martinez-Schuldt)

Fall 2022

New Qualitative Methods (Jones)

Health, Environment, and Society (MacKendrick)

Spring 2022

The Production, Consumption, & Symbolic Power of Culture (Chaudhary)

Deviant Behaviors and Deviant Cultures (Cerulo)

Fall 2021

Race, Ethnicity, and Inequality (Jones)

Qualitative Methods: Studying Lives (Stein)

Cognitive Sociology (Zerubavel)

Spring 2021

Computational Sociology (Davidson)

Rutgers University

Cultural Sociology (Cerulo)

Domination and Resistance (Hirschfield)

Social Networks Analysis (McLean)

Fall 2020

Qualitative Methods (Dinzey-Flores)

Science and Technology (Bliss)

Sociology of Sexuality (Stein)

Spring 2020

Multilevel and Longitudinal Data Analysis (Lei)

Sociology of Incarceration (Friedman)

Sociology of the Body (Kempner)

Cognitive Sociology (Zerubavel)

Fall 2019

Sociology of Work, Occupations, and Labor Markets (Mai)

Biological Citizenship (Lee)

Spring 2019

Social Change: A Graduate Seminar in Historical Sociology (Böröcz)

Cultural Sociology (Cerulo)

Power, Knowledge and Political Economy of Protest (Salime)

Fall 2018

Qualitative Methods (Brooks)

Sociology of Environmental Health (MacKendrick)

Sociology of Sexuality (Stein)

Space, Place, & Inequality (Dinzey-Flores)

Spring 2018

Domination and Resistance (Hirschfield)

Global Mobility, Inequality, and Social Change (Chaudhary)

Spanish 940 (SGS-SPANISH)

SPANISH 940

Degree Programs Offered: Ph.D., M.A. for Teachers in Spanish, M.A. in Spanish and English Translation and Interpreting.

Please visit the Spanish program page.

Program Description

The Graduate Program in the Department of Spanish and Portuguese at Rutgers, the State University of New Jersey, offers an innovative and interdisciplinary curriculum that showcases faculty expertise and solid methodological training. We offer two M.A. degrees and two Ph.D. degrees:

- M.A. in Spanish <> English Translation and Interpreting
- M.A. in Teaching
- Ph.D. in Latin American, Iberian, and Luso-Afro-Brazilian Literatures and Cultures (LAILAB)
- Ph.D. in Bilingualism and Second Language Acquisition

Our graduate programs offer a wide range of courses, which reflect the faculty's varied interests, methodologies, and critical perspectives. Students are encouraged to undertake interdisciplinary research projects,. Our graduate faculty is research active, and the cordial intellectual climate within the department is reflected in the steady participation in conferences, symposia and publishing. We are committed to our students' professional development in each of the fields of specialization.

Application Requirements & Deadlines

Information on the application and admission process to each of our graduate programs. Applicants to our graduate programs should complete the appropriate application for admission.

Faculty

John Allen, Ph.D., Rutgers

Jennifer Austin, Ph.D., Cornell

Karen Bishop, Ph.D., California (Santa Barbara)

Maria Cabrera-Puche, Ph.D., Rutgers

Joseph Casillas, Ph.D., Arizona

Douglass Crouse, M.S., Columbia

Daniel Da Silva, Ph.D., Columbia

Kimberly DaCosta-Holton, Ph.D., Northwestern

Kendra Dickinson, B.A., Illinois; M.A., Boston; Ph.D., M.A., Ohio

Jennifer Duprey-Colon, Ph.D., Cornell

Próspero García, Ph.D., Massachusetts (Amherst)

Carla Giaudrone, Ph.D., New York University

Miguel Jiménez, Ph.D., Granada (Spain)

Yeon-Soo Kim, Ph.D., Yale

Ana Laguna, Ph.D., Purdue

Jorge Marcone, Ph.D., Texas (Austin)

Susan Martin-Marquez, Ph.D., Pennsylvania

Dámaris Otero-Torres, Ph.D., California (San Diego)

Silvia Perez-Cortes, Ph.D., Rutgers

Laura Ramírez Polo, Ph.D., Valencia

Sara Sáez Fajardo, Ph.D., Illinois (Urbana Champaign)

Nuria Sagarra, Ph.D., Illinois (Urbana Champaign)

Marcy Schwartz, Ph.D., Johns Hopkins

Ben Sifuentes-Jauregui, Ph.D., Yale

Thomas Stephens, Ph.D., Michigan

Camilla Stevens, Ph.D., Kansas

Spanish 940 (SGS-SPANISH)

Ph.D. Degree Requirements

Doctor of Philosophy

Ph.D. in Latin American, Iberian, and Luso-Afro-Brazilian Literatures and Cultures (LAILAB)

General Course work:

Doctoral candidates must complete forty-eight credits of coursework (including 12 transferred credits) and twenty-four research credits. Students are required to take a literary theory course (940:612 Seminar: Literary Theory, 195:501 Introduction to Literary Theory or any other literary theory seminar offered during the first two years), as well as 940:501 Methodology of Teaching and Research (required of all new incoming fellowship and TA recipients). Doctoral students in LAILAB must take two courses offered in the department and an elective

each semester. Elective courses can be used to meet the requirements for a certificate program. In the last two weeks of August or the first week of September before the start of their third year, students must take their Ph.D. Comprehensive Examination.

Transfer of credits:
If a student holds a master's degree in a relevant field, a maximum of twelve credits may be transferred from another institution after completing twelve Rutgers credits. These are determined by the Graduate Director, and final approval must be attained from the Graduate School.

Language requirements:
Ph.D. students must demonstrate the ability to conduct research in a language other than Spanish or English. The language will be chosen in consultation with the Assistant Graduate Director. This requirement must be completed before taking the PhD exam. Normally, candidates can satisfy this requirement by 1) taking a written reading exam offered through the Graduate School at the language lab, 2) successfully completing an advanced course in the literature of that language, or 3) submitting a summary translated into English or Spanish, of an academic work written in the target language.

Interdisciplinary Graduate Certificates:
Many of our students pursue a graduate certificate in another field via elective courses. Students most frequently opt for certificates in Women and Gender Studies, Cinema Studies, Africana Studies, Cognitive Psychology, Environmental Studies, Public Humanities, and World Languages Teaching.

Graduate Program Consortium:
Rutgers participates in a regional consortium of graduate programs at other universities. These include Princeton University, NYU, Columbia, Fordham, and the CUNY Graduate Center. Students may take elective courses at these universities. All students have access to the library collections of all the consortium universities.

Courses Outside Rutgers:
Normally, no more than six credits taken outside Rutgers during the coursework may be counted toward the degree.

Ph.D. in Bilingualism & 2nd Language Acquisition

Students in the Graduate Program in Spanish (option in Bilingualism and SLA) will be required to complete a minimum of 72 credits towards their Ph.D., including 24 research credits. Students may transfer up to 12 credits taken at the graduate level at another institution, subject to the approval of the Graduate Director.

Course requirements:

Students must complete all core courses as listed below. The remaining courses will be chosen in consultation with the graduate linguistics faculty from among offerings in Spanish linguistics and other departments (e.g., Graduate School of Education [GSE], Linguistics, Psychology, Anthropology).

Language Requirement

PhD students must demonstrate the ability to conduct and interpret research in one language other than Spanish or English. The language will be chosen in consultation with the student's adviser, committee and Graduate Director. This requirement must be completed before taking the qualifying exams. Normally candidates can satisfy this requirement by conducting and/or analyzing data guided in the target language, a language that has been agreed upon.

Requirements

1) Qualifying Paper (QP) for the Ph.D.

Students are required to write a QP for the Ph.D. in an area that is different from that of the Ph.D. dissertation. This paper, to be defended after passing 27 credits of course work, should present the results of original field research completed under the supervision of a member of the graduate faculty. The qualifying paper must be defended before a committee formed by the advisor and two faculty members appointed by the Graduate Director in consultation with the graduate linguistics faculty. The committee will assign one of two grades: Pass or Fail.

Students will be required to:

Identify a chairperson, who must approve the topic, by September 1 of the second year of matriculation.

Form a committee and submit an abstract to this committee, by December 15 of the second year of matriculation.

Defend the paper before this committee and obtain a Pass by June 1 of the second year of matriculation.

Upon obtaining a Pass on the Ph.D. QP, students must file the appropriate paper work with the Graduate School for Advancement to Candidacy. The Graduate School requires Advancement to be completed at least two semesters prior to the Dissertation defense.

2) Dissertation Proposal and Dissertation

Students are required to write a dissertation, which must be defended before a committee, which will assign one of two grades, Pass or Fail. A Dissertation Committee is comprised of four members: the Dissertation Director who serves as the Committee Chair, at least one member of the Graduate Faculty of Spanish, and two other members, one of whom must be from outside the Graduate Faculty of Spanish. The following are the steps involved:

Form a committee of three members, at least two of them from the Spanish Graduate Program by September 30 of the third year of matriculation.

Defend the dissertation proposal before this committee and obtain a Pass on it by the end of Fall semester of the third year of matriculation.

Add an external committee member by the end of Spring of the third year of matriculation. The appointment must meet the approval of the Graduate Program Director and the chair of the Dissertation Committee.

Defend the dissertation before the committee (the external member need not be present), and obtain a Pass (from all four members), by the end of Spring of the fourth year of matriculation.

List of possible courses

Core courses - Spanish

Methodology of Teaching (501)

Introduction to the Study of Bilingualism and Second Language Acquisition (580)

Research methods (581)

Linguistic Theories of Bilingualism (582)

Second Language Acquisition (583)

Spanish Syntax (584, or Syntax I in the Linguistics Dept.)

Spanish Phonology (585)

The Spanish Language in Social Contexts (586)

Quantitative Research Methods ("Statistics for Linguistics", GSE 511 or equivalent course)

Other suggested courses - Spanish

History of the Spanish Language (511)

Theory and Practice of Translation (563)

Seminar: Topics in Hispanic Linguistics - Bilingual Assessment, SLA, Bilingual Education and Language Planning, Spanish in the US (588, 589)

Independent Study in Spanish (599)

Research in Spanish (701-702)

Other suggested courses - Linguistics

Phonology I (520)

Semantics I (530)

Syntax I (510)

Formal Methods for Linguistics (610)

Field Methods for Linguistics (631)

Other suggested courses - Education (GSE)

Bilingual-Bicultural Education (253:522)

Cognition and Language: Birth to Five (290:522)

Topics in Language Education (253:527)

Cognitive Development (290:503)

Applied Multivariate Analysis (291:641)

Other suggested courses - Psychology

Neurolinguistics (830:513)

Language Development (830:550)

Psycholinguistics (830:602)

Seminar: Cognition (830:638)

Other suggested courses - Philosophy

Seminar in Philosophy of Language (730:570)

Seminar in Philosophy of Mind (730:575)

Other suggested courses - Anthropology

Language Development (070:513)

Language as Social Action (070:514)

Course Descriptions

Courses Offered

16:940:500 *Methods of Spanish Language Teaching* (3) (MAT)
Methods of teaching Spanish to both English speakers and those coming from a Hispanic background, with special emphasis given to K-12. Emphasis on curriculum development uses of technology and software applications. Review of theoretical resources. Conducted in Spanish.

16:940:501 *Methodology of Teaching and Research* (3)
Methodology of Teaching and Research is a theoretical and practical introduction to Second Language Acquisition (SLA) in the classroom setting. It explores diverse areas of foreign language research and their application to the task of teaching a foreign language. Students will work with a variety of approaches to teach language communicatively, will learn principles of proficiency and will be exposed to SLA theories. The critical reflection of pedagogical practices and language pedagogy are emphasized. The course offers an overview of multiple factors that influence language teaching and learning. It prepares students to evaluate teaching methodologies and to stimulate them to reflect on their own attitudes and approaches to language teaching.
This is the only course required for doctoral students.

16:940:502 *Translation of Specialized Texts* (3)
Intensive practice in the translation of the main areas of specialization (technical, legal, medical, institutional and scientific translation). Technological, documentary and terminological skills for the translation of specialized texts. Critical overview of main theoretical approaches.

16:940:503 *Advanced Spanish Grammar & Stylistics* (3)
This course, conducted in Spanish, will review points of Spanish grammar, sensu lato. It is designed to analyze & practice grammatical concepts as well as to recognize & use specific advanced structures in the Spanish language. The course further focuses on the development of formal linguistic skills through explicit grammar instruction, reading original texts by contemporary authors, & developing the links among linguistics, formal language, literature, & culture through writing & conversation. That is, this class will emphasize some specific aspects of grammar & style in contexts of "norm" & "variant" - sociolectal, geolectal, & chronolectal.

16:940:506 *Culture and Civilization of Latin America* (3)
Language Race, and (In)justice in Latin America
This class will confront issues of language and racial/cultural norms in greater Latin America, varying from related social justice models in North America. It will consider how language varieties are associated with discrimination and attempt to answer specific instances in which language upholds discrimination and injustice. Topics will include fairness in multilingual settings, racial epithets in civil society, gendered pronouns, discourses regarding migrants/migrations/immigration, patterns of communication that create more just societies, historical views of (non-)feminist speech/sexist, unconsciously misogynist and paternal language patterns, accounts of BLM-related and indigenous movements in Spanish America and Brazil, the power of symbols, and the long struggle for recognition and rights in Haiti. There will be invited guest speakers. Projects will revolve around real speech and its connection to a civil and just world. Taught in Spanish.

16:940:507 *Spanish Language Across the Curriculum* (3)
MAT course taught when needed. Also 617:507.
Refinement of reading, writing, and oral proficiency skills; vocabulary building; and content-based unit development in world languages. Includes discussion of resources taken from a variety of media. Development of instructional materials appropriate for K-12, with an emphasis on teaching humanities and social sciences in the target languages. Conducted in English with language-specific group sessions.

16:940:508 *Spanish Language Across Curriculum* (3)
MAT course taught when needed, also 617:508.
Refinement of reading, writing, and oral proficiency skills; vocabulary building; and content-based unit development in world languages. Includes discussion of resources taken from a variety of media. Development of instructional materials appropriate for K-12, with an emphasis on teaching math and sciences in the target languages. Conducted in English with language-specific group sessions.

16:940:511 *History of Spanish Language* (3)
This course will introduce students to the development of the Spanish language from its origins to the present day & will explore the relationship of external history to linguistic development. The class will analyze & discuss connections between & among the other Romance languages & will engage in research appropriate to the class. Students will be expected to produce final projects that are meaningful to their course program - literature, linguistics, translation, or teaching. The materials studied herein originate in the world of Second Language Acquisition and Multilingualism, par excellence. That is, the development of varieties of spoken Latin – itself a polycentric language with a dominant monocentric oratory and written “standard” found mostly in an around Rome at the turn of the first millennium CE – reformed, redeveloped, changed, and became a language variety related to but different from the spoken Latin selection(s) brought by the conquerors, typically soldiers not of the upper classes of Rome and often themselves not speakers of any form of Latin. Colonizers and colonized might learn

"Latin" at the same time. In essence, the history of Spanish is a long trajectory of learning new language formulae in multilingual contexts. Thus, one could say, it is the "original" course on SLA and Bilingualism in the Spanish- speaking world.

16:940:512 *Hispanic Children's Literature & Culture* (3)
MAT course offered when needed. This course provides graduate students in the MAT with an understanding of children's and juvenile literature from the Spanish-speaking world, as adapted for the context of teaching in K-12 schools. The materials rely on an interactive class that employs both practical and theoretical methods, offering students a comprehensive understanding and knowledge of these works, as well as their practical and theoretical applications in the K-12 classroom.

16:940:517 *Drama of Golden Age* (3)
The Spanish comedia has been praised for its ideological support of Habsburg Spain. However, beyond traditional definitions of the comedia as an instrument of blind national allegiance lies a massive cultural enterprise that challenges the status quo of Castilian society. This seminar situates the comedia within the political, religious, and intellectual currents of the seventeenth-century Iberian world, as it attentively examines the staging of performance practices, staging conventions, and the economics of the Spanish corrales. As a product of mass consumption, the comedias' success attests to their impact on shaping religious, gender, ethnic, and political subjectivities that give voice to the spectrum of contradictions negotiated on the stage.
Students will read major playwrights such as Lope de Vega, Calderón de la Barca, Miguel de Cervantes, Tirso de Molina, and Juan Ruiz de Alarcón alongside the works of women playwrights, including Ana Caro, María de Zayas, Luiza de Acevedo, and Sor Juana Inés de la Cruz to dive deep into a nuanced understanding of the comedia as a literary and aesthetic artifact that holds a powerful role in the construction of subjectivities. The course encourages interdisciplinary approaches, drawing on performance studies, gender studies, colonial studies, and theories of genre and spectatorship.

16:940:540 *Environmental Humanities: Inter- and Transdisciplinary Issues* (3)
The environmental humanities (EH) is an umbrella term for acknowledging conversations about nature and culture that have taken place in philosophy, education, history, literature, film, art, cultural geography, cultural anthropology, etc. at least in the 1970s. It is also a field that performs a deep critique of dominant discourses and narratives (for instance, the economy of growth, extractivism, or the very notion of the Anthropocene) supported by, among other frameworks, queer ecologies and posthumanist and ontological "turns."

However, EH calls as well for cultivating a synergy of diverse perspectives on social-ecological scenarios that recognizes the insufficiency of approaches that rely almost exclusively on science and economics, and of policies that exclude nonacademic social actors. Like other fields in the humanities recently, EH calls for transdisciplinary work, or collaboration with nonacademic stakeholders in the process of knowledge production, dissemination, and impact in concrete life experiences. EH, like other forms of public humanities, aspire not only to denounce social-ecological conflicts but to be part of their solution. Can humanities produce knowledge of strategic value for the solution of concrete and particular social-ecological problems? Can it join interdisciplinary/multidisciplinary initiatives? What customs, preferences, moral and spiritual values, identities, memories, ideas of well-being, epistemologies, ontologies, wisdoms, aesthetics, etc. intervene in environmental changes or in the transitions that deal with them?

Though the majority of examples of transdisciplinary research, environmentalist artivism, and texts, films and art will be drawn from Latin America and Spain, students from all humanities and social science disciplines are welcome. The language of instruction is English, and texts and films are taught in translation.

16:940:549 *Contemporary Spanish-Amer Poetry* (3)

LYRIC RISK - a seminar in poetics

This seminar investigates the state of lyric in Latin American letters by asking what formal and social risks lyric requires, assumes, and enables. We will look at the evolution of lyric risk from the early twentieth century through to our current moment. Together we will look at key moments of rupture, rejection, retention, suspension, disappearance, play, excess, and revelation in Latin America's modern poetic landscape. We will study how language changes under certain aesthetic and political pressures, how the lyric voice takes on historical trauma, and the ways in which experimental poetry amplifies the capacity of the literary. We'll look critically at the various vanguard movements that have swept the last hundred years of Latin American poetry, including Ultraism, Creationism, Surrealism, Confessionalism, Anti-Poetry, testimonial poetry, ecopoetry, activist poetry, and recent projects of spoken word, performance, landscape, digital, and intermedial poetry. As we analyze the risks we espy, their cost and worth, we will consider recent calls for postlyricism and ask what viable alternative forms lyric might take in contemporary efforts to present the twenty-first century speaking self as part of a larger, collaborative, and ethical poetic community.

Our primary entry into this corpus of texts will be a careful, responsible, and generous close reading, a skill we will work to self-reflexively perfect throughout the semester. Seminar participants will, among other assignments, write weekly response papers, introduce a cluster of critical work, perform a mid-semester close reading, and write a final paper.

16:940:551 *Contemporary Spanish-American Novel* (3)

Studies the evolution of the Latin American novel in the 20th century, including precursors to the Boom, the Boom, women writers, highlighting a variety of stylistic tendencies and theories.

16:940:552 *Contemporary Spanish-American Novel* (3)

Studies the evolution of the Latin American novel in the 20th and 21st centuries, including the Boom, the post-Boom, and emerging trends in the contemporary novel.

16:940:553 *Contemporary Spanish-American Short Story* (3)

Examines the short story in Latin America from the nineteenth century to the present. Theories by short story writers themselves and other relevant theories are included such as realism, the fantastic, magic realism, and indigenist writing.

16:940:555 *Contemporary Spanish-American Theater* (3)

This course examines the complex relationship between performance and politics in Latin America from the mid-twentieth century to the present. We study primarily theatrical performances, situating theater within a spectrum of embodied practices ranging from everyday social roles, cultural performances, rituals, and political spectacles. The first portion of the course will cover canonical Latin American plays of the 20th century and fundamental modernist theater theory. The second half of the semester focuses on key 21st century theater and performance trends to explore themes of memory politics, human rights, and social justice.

16:940:563 ***Theory & Practice of Translation*** **(3)**
Introduction to translation studies. Application of linguistic and literary theory to translation. Problems of equivalence. Translation quality assessment. Practice in nonliterary and literary translation, including narrative, poetry, and theater. Required for the M.A. in Translation/Interpreting
Prerequisite: 16:940:502 or equivalent, or permission from program coordinator.

16:940:565 ***Language Learning: Translation and Translation Theory*** **(3)**
Overview of the main theoretical and practical approaches to introduce translation and interpreting in the world language classroom. It introduces students to the main paradigms and language mediation possibilities that translation and interpreting offer, such as contrastive, communicative or cultural approaches, “translanguaging”, transcreation, as well as modalities such as subtitling and song translation for language acquisition. It also focuses on the latest advances in language and translation technologies that are revolutionizing language acquisition.
Prerequisite: 16:940:502 or equivalent, or permission from program coordinator.

16:940:575 ***Community and Simultaneous Interpreting*** **(3)**
Introduction to theory and practice of liaison, consecutive, and simultaneous interpreting; Spanish to English and English to Spanish. Intensive classroom, online and language laboratory exercises. Introduction to the main areas of practice, medical, legal and community interpreting. Required for the M.A. in Translation/Interpreting
Prerequisite: 16:940:502 or equivalent, or permission from program coordinator.

16:940:577 ***Language Variation in the Spanish- Speaking World*** **(3)**
This course is dedicated to the study of major language varieties in the Spanish-speaking world, including survey of defining phonological, morphological, syntactic, and lexical features of modern varieties in Spain, Spanish America, and the U.S. This course explores various explanatory factors for language variation, including, but not limited to geography, gender, socioeconomic status, and education level, and more. This course will equip students with the skills to recognize, understand, and analyze language variation in the Spanish-speaking world, and provide them with the tools necessary to apply this knowledge and skill set to language pedagogy.

16:940:578 ***Language Learning and the Brain*** **(3)**
Understanding the bilingual brain: from the lab to the class.
Language plays a central role in human life. Although all normally developing children learn to speak one or multiple languages, language learning is one of the most complex human cognitive abilities. This course examines the relationship between what we know about the bilingual brain and what teaching practices improve language learning.

16:940:579 ***Translation: Media and Technology*** **(3)**
Introduction to media translation and technology-driven translation practices. Overview of translation modalities where technology plays an essential role, such as subtitling, website and app localization, use of translation memories, terminology management, etc. Required for the M.A. in Translation/Interpreting
Prerequisite: 16:940:502 or equivalent, or permission of graduate director.

16:940:580 ***Sounds of Spanish*** **(3)**
"Sounds of Spanish" is a course ideal for those interested in bilingualism, particularly aimed at professionals in education, linguistics, and cognitive studies. It delves into bilingual phonetics and phonology, focusing on the processing of sounds in both Spanish and English. The course encompasses a wide range of Spanish dialects, including US Spanish, Peninsular Spanish with its standard and regional dialects, and Latin American varieties.

The program is especially beneficial for language educators, providing strategies for teaching Spanish pronunciation. Participants gain a thorough understanding of the contemporary variants of Spanish, particularly those prevalent in the U.S. The curriculum covers a variety of topics such as the articulatory system, sound production, classification of vowels and consonants, phonetic transcription, mental representation of sounds, dialectal variation and accent, and sound change processes. This approach equips learners with the knowledge and skills necessary to understand and teach the phonetic and phonological aspects of Spanish in a bilingual context.

16:940:585 ***Spanish Phonology*** **(3)**
Introduction to Spanish phonetics and phonology. Provides a general descriptive vision of the Spanish phonological system. The sounds of Spanish are approached from the perspective of experimental, instrumental, quantitative phonetics. Students will learn to use fundamental tools such as Praat (digital speech processing) and R (statistics, graphics).

16:940:586 ***Spanish Language in Social Context*** **(3)**
This course is a designed to familiarize students with topics related to language use in social contexts in Spanish-speaking communities and to provide a comprehensive introduction to the theoretical frameworks and methods of sociolinguistic research. In particular, we will examine how both social elements – such as language ideologies, race, gender, socioeconomic status, and identity – and linguistic and cognitive mechanisms can influence sociolinguistic variation. In addition to theoretical components, this course will also include hands-on practice in sociolinguistic methods.

16:940:588 ***Seminar: Topics in Hispanic Linguistics*** **(3)**
This seminar will help students immerse themselves in a specialized approach to a field of study, using relevant theoretical texts. The theme of the seminar will vary from semester to semester. Some examples include:

- ***Translation and Interpreting: Cognition and Bilingualism***

Main foundations for research on issues related to cognition, bilingualism and language acquisition in translation and interpreting. Introduction to cognitive approaches and models in translation and interpreting studies. Main research methods in translation and interpreting (process-oriented, product -oriented and participant-oriented research). Overview of translation and interpreting technologies, including AI, in bi- multilingual contexts. Translation and interpreting competence models and their role in language learning contexts.

- ***Language Variation in the Spanish Speaking World***

This course is dedicated to the study of major language varieties in the Spanish-speaking world, including survey of defining phonological, morphological, syntactic, and lexical features of modern varieties in Spain, Spanish America, and the U.S. This course explores various explanatory factors for language variation, including, but not limited to geography, gender, socioeconomic status, and education level, and more. This course will equip students with the skills to recognize, understand, and analyze language variation in the Spanish-speaking world, and provide them with the tools necessary to apply this knowledge and skill set to language pedagogy

- ***Neurolinguistics of Bilingualism***

Neurolinguistics is the study of the neural mechanisms in the human brain underlying the comprehension, production, and acquisition of a language, through the study of the neurobiology of language. This course focuses on the bilingual brain during language processing. Part 1 covers neuroanatomy (networks of neurons in the brain), neurophysiology (ways for these networks to be active), neuroethology (comparing neural networks

involved in human language to those in birds, mammals and primates), and neurogenetics (genes related to human language). Part 2 provides an introduction to research methods commonly used in language research: event-related potentials (ERPs) and functional magnetic resonance (fMRI). Fundamental concepts are put into practice at a tour to an ERP lab and an fMRI lab and via hands-on ERP lab assignments (e.g., data collection). Part 3 focuses on how bilinguals process sounds (phonetics, phonology), words (lexical access, lexical semantics, morphology), and sentences (morphosyntax, syntax), how bilinguals make predictions in a non-dominant language, and how memory modulates language acquisition and processing. Part 4 addresses bilingualism in atypical populations. Graduate Course Schedule Fall 2023 This course will be of particular interest to students of cognitive psychology, neuroscience, linguistics, language acquisition, bilingualism, or medicine who wish to learn about the specific needs of patients in a multilingual society.

16:940:589 *Seminar: Topics In Hispanic Linguistics* (3)
This seminar will help students immerse themselves in a specialized approach to a field of study, using relevant theoretical texts. The theme of the seminar will vary from semester to semester. Some examples include:

- ***Language Contact***

When communities meet, their languages do too. What kinds of variation and change emerge from these encounters? This course is an advanced introduction to the study of language contact and its outcomes, examining the social, cognitive, and linguistic factors that mediate contact-induced language variation and change. We will analyze key phenomena such as borrowing, codeswitching, convergence, and related processes, as well as the emergence of new languages and varieties. Students will engage with empirical case studies from a range of contact situations to investigate how different factors shape linguistic outcomes and to evaluate competing theoretical models. The course integrates variationist, usage-based, and sociolinguistic frameworks alongside both production-based and experimental methodological approaches, equipping students with concrete analytical tools for investigating language contact. By the end of the course, students will be able to critically evaluate research in contact linguistics and design their own theoretically grounded, empirically informed research projects on language contact.

- ***Sociolinguistic Approaches to Multilingualism***

This course is designed to familiarize students with the complex interplay between language, society, and the individual in multilingual contexts and to introduce the theoretical frameworks and methods of sociolinguistics approaches to multilingualism research. Focusing both on established multilingual communities and second language learning, this course explores the relationship between society and how languages are learned, maintained, and used. This course delves into topics such as language contact, translanguaging and codeswitching, social stratification of multilingual communities, language maintenance and shift, acquisition of sociolinguistic competence, the influence socially based L1 variation on L2 acquisition, the role of identity in L2 acquisition, and more. This course will also examine different methodological approaches to the study of the sociolinguistics of multilingualism, including variationist, ethnographic, and experimental approaches, and more. This course will expand students' awareness of social aspects of multilingualism and their implications for linguistic analysis, as well as provide them with the tools necessary to develop their own research grounded in sociolinguistic approaches to multilingualism.

- ***Secrets of the Spanish Language, or: Did some king really lisp?***

Have you ever wondered why Spanish has differing spellings but overlapping pronunciations for the letters s, z, and c? And the c and k and qu? Or, what about the y and ll, and sometimes the I, or even the e? Maybe you cannot for the life of you understand why Spanish needs so many forms to call you (morphosyntactic questions regarding with tú/vos/Ud. and related terms), or a child, or a bus, or a straw. These and other "secrets" will be revealed in this hybrid (Webex-based) course designed for M.A.T. students in Spanish. Evaluation via class participation on Webex and online discussions, quizzes and short written assignments, portfolio unit. Taught in Spanish.

16:940:590 ***Currents Portug Literature*** **(3)**
Difference: Sex, Race, and Nation in Luso-Afro-Brazilian and Latin American Cultures
Through critical theory and primary sources on queer, trans, and travesti identities and other nonnormative genders, sexualities, and subjectivities, we will study formations of race and nation on and from Luso-Afro-Brazilian cultures and Latin American cultures to comparatively discern through music, texts, art, film, and other sources, formations of queer Latin American and Luso-Afro-Brazilian desires and diasporas.

16:940:597 ***Seminar in Hispanic Literature*** **(3)**
This seminar will help students immerse themselves in a specialized approach to a field of study, using relevant theoretical texts. The theme of the seminar will vary from semester to semester. Some examples include:

- ***Sounds of Resistance: Exploring Music and Identity in 20th-Century Spanish American Literature***

This course will examine the ways in which music is employed to create, advance, or contest notions of identity in different Spanish American cultures. By analyzing music's role in a wide range of twentieth-century literary texts by authors such as Nicolás Guillén, María Luisa Bombal, Alejo Carpentier, and Julio Cortázar, we will focus on the varied approaches these authors take to employ music in their works and how music contributes to identity claims of nation, race, class, gender, and political affiliation. In addition to fostering a fundamental understanding of Spanish American culture, this course will also present teachers with the opportunity to develop pedagogical strategies that will enable them to teach and activate this subject to foreground the importance of culture in their own elementary or high-school Spanish courses. Taught in Spanish.

16:940:599 ***Independent Study in Spanish*** **(3)**

16:940:604 ***Public Culture in Latin America: Urban Space: Expression and Participation*** **(3)**
This course studies urban public culture in Latin America from the early 20th century to the present through literary works that register public interactions and urban development. This course is accepted for the Public Humanities Graduate Certificate.

16:940:648 ***Seminar: Advanced Topics in Hispanic Literature*** **(3)**
This seminar examines highly focused topics and corresponding methodological approaches, with topics varying each semester.

Some examples include:

- ***Mujeres Escritoras del Siglo de Oro***

This seminar examines the literary production of women from the late fourteenth to the seventeenth century in early modern Spain. The course examines how women writers negotiated authorship, spirituality, embodiment, and gender within restrictive social and religious frameworks from the 14th to the 17th centuries. Our meetings will discuss the distinct textual strategies employed to dismantle the patriarchal constraints that defined women as

intellectually inferior and infantilized beings. Students will learn to read against the grain to identify the unique orchestration of voices and spaces these women used to legitimize their authority. Within a historical landscape scarred by issues related to sexuality, blood purity, inheritance, marriage, censorship, wellness, spirituality, ethnic differences, and identities built around merit and reputation, early modern women writers succeeded in reorganizing, questioning, and subverting the patriarchal structures of power. Mystical autobiography, devotional prose, poetry, drama, and early narrative fiction written by women evolved into embryonic forms of expression that challenged the paternalistic hegemony of the time. Through a theoretically informed discussion of women's literary production, we will examine the similarities and differences that fostered their negotiation of spaces of power, assimilation, or resistance. Our discussions will emphasize the importance of adjusting contemporary theoretical approaches to avoid misreadings that result from historically flawed assumptions. We are committed to avoiding theoretical appropriations that would further perpetuate the erasure of female subjects. By critically examining the universe of paradoxes, fantasies, errors, and concerns associated with everyday life in women's writing, this seminar aims to cultivate an interpretive curiosity that establishes new parameters, inviting us to rewrite female prerogatives from critical spaces disparaged by literary traditions.

Key authors include Teresa de Cartagena, Teresa of Ávila, Luisa de Carvajal, María de Zayas, Ana Caro, and Sor Juana Inés de la Cruz. The seminar integrates approaches from cultural history, gender studies, and literary criticism, preparing students for advanced research in Hispanic literature and feminist scholarship.

- ***Narratives of the centennial celebrations of Latin American independence***

During the celebrations of the Centenario, the 100th anniversary of the beginning of the Independence movement in Latin America, many authors and intellectuals focused their work on the formulation of a Pan-Hispanic cultural order. In the context of the desire to assert a spiritual essence shared by all Latin American nations, the writings of the Centenario proposed an optimistic, cosmopolitan, and Euro-centric vision that also stressed an idealistic fusion of races and the recuperation of a common past.

This seminar will center on a wide range of official and excluded narratives from this period (1900-1930), focusing on issues of self, nation, class, race, and gender. The seminar will also take a comparative approach to the study of memory and commemoration by including revisionist bicentennial narratives (2010-2022). Informed by art as well as social and cultural history, the course will examine not only literary texts but also commemorative publications, literary histories and anthologies, textbooks, magazines, manifestos, and the most representative iconography of the period.

Discussions and readings will be both in Spanish and English. Students who are not enrolled in the department Spanish and Portuguese are strongly encouraged to enroll and may make their oral presentation and write their essays in English.

16:940:649 *Seminar: Advanced Topics in Hispanic Literature* (3)
This seminar examines highly focused topics and corresponding methodological approaches, with topics varying each semester.

Some examples include:

- ***Early Modern Women Writers***

Our seminar explores the distinct textual strategies women writers use for dismantling what confines and infantilizes them as female subjects. We will learn how to read against the grain to discover the unique orchestration of voices and spaces in a historical landscape conditioned by issues related to blood purity, inheritance, marriage, censorship, wellness, spirituality, ethnic differences, and identities built around merit and reputation, and how these compete against each other. As we examine how female marginal voices succeed in reorganizing, questioning, and subverting the patriarchal structures of power, we will also unearth how these textual productions morph into embryonic ways of being, thinking, and feeling within Spanish society. In surveying women's literary production, we will engage theoretically with the similarities and differences that empower women writers to negotiate spaces of power, assimilation, or resistance without losing sight of the importance of adjusting contemporary theoretical approaches to avoid misreadings by historically flawed approaches. In a society defined by these coercive phenomena, it is of utmost importance to avoid theoretical appropriations that would further perpetuate the erasure of female subjects. By critically penetrating the universe of paradoxes, fantasies, errors, and concerns linked to everyday life in women's writing, we foster interpretive curiosity to cement new parameters in the field of early modern Spanish culture. Addressing issues of gender, fictional worlds, and the canon as a problem leads to the development of oblique and suspicious interpretations that invite us to rewrite female prerogatives from spaces that have been disparaged by literary traditions.

16:940:650 ***The Phonetics and Phonology of Bilingualism*** **(3)**
Introduction to Spanish phonetics and phonology. Provides a general descriptive vision of the Spanish phonological system. The sounds of Spanish are approached from the perspective of experimental, instrumental, quantitative phonetics. Students will learn to use fundamental tools such as Praat (digital speech processing) and R (statistics, graphics).

16:940:656 ***Bilingual Language Development*** **(3)**
This graduate course will focus on how bilingualism affects language acquisition in children and adults, including topics such as language differentiation, age of acquisition effects, cross-linguistic influence in the grammars of bilinguals, variability in heritage grammars, and language attrition. We will also explore the implications of research on bilinguals for wider debates in the field regarding the role of innate constraints versus language-specific experience in language development. In addressing these questions, we will discuss recent research findings from linguistics, cognitive psychology, and neuroscience.

16:940:658 ***Data Science for Linguists*** **(3)**
In this course students examine the fundamental principles of doing experimental research in linguistics. Specifically, the focus is on developing an in-depth understanding of the experimental paradigms and statistical procedures used in sociolinguistics, phonetics, psycholinguistics, syntax, and corpus linguistics. Students will learn advanced techniques used to explore, tidy, visualize, and analyze data. We will also focus on how to make the aforementioned procedures reproducible and shareable. Students will develop a foundation in programming in R, as well as learning the most common tools at the disposal of today's data scientist (i.e. GitHub, Knitr, etc.). No prior experience with statistics or programming is necessary.

16:940:659 ***Seminar: Advanced Topics in Hispanic Literature*** **(3)**
This seminar examines highly focused topics and corresponding methodological approaches, with topics varying each semester.

Some examples include:

- ***Caribbean Post-Colonial Theater and Performance***

This course explores the theatre and performance traditions of the post-colonial Caribbean and its diaspora, examining how performance serves to imagine national communities and preserve cultural memory. Through the study of plays from the 1960s to the present, the course engages with themes such as storytelling and oral tradition, the re-visioning of European dramatic forms, the roles of ritual and carnival, and the politics of race, class, and gender in performance. The course will also examine how transnationalism, diaspora, and exile shape the strategies and aesthetics of Caribbean theatre.

- ***Diasporic Memories, Migrant Identities, and the New Forms of Cultural Coalitions in Contemporary Spain***

In this seminar, we will examine a variety of theoretical ideas that are considered under the rubric of Diaspora Studies from Hall, Gilroy, Chow, Braziel, Mannur, Fraser, Crenshaw, Hirsch to Ahmed. By looking at a wide range of Spanish texts recounting the stories of displacement from exile, travel, immigration to other forms of cultural encounters that are made possible as part of the global processes, we will discuss how the Studies of Diaspora challenge the traditional sense of Spanish identity and provide evidence of new forms of cultural coalitions. Students will be encouraged to provide critical insight from other cultural, political conditions of diaspora and develop their own line of research pertinent to the given theoretical framework.

- ***Textualidades Conversas***

This seminar offers a critical view of how converso textualities have been constructed within the Spanish canon and what is at stake to re-shape new theoretical approaches. The so-called converso geography has hindered in-depth critical readings that illumine how 'converso' imaginaries narrate their difference within the confessional context imposed marked by persecution and practices of shame. Our seminar will examine the multiple discursive strategies that were produced to narrate the trauma, the hopes, and the failures within the textual body and in their own terms. Our main goal will be to examine how converso voices (and bodies) embrace the heterogeneity in legitimizing their own fluctuating and hybrid possibilities to give voice to the instability of their subjective positions.

Through readings of both canonical and relatively unknown texts, the seminar will examine how these converso textualities dismantle the surveillance and crushing ethic/racial ideologies of the time, on the hand. We will also discuss how these texts demand new perspectives that validate and invigorate the layers of heterogeneity that pulsates within converso discursive constellations.

- ***Queer Aqui: Gender and Sexuality in Latin American and Luso-Afro-Brazilian Cultures***

This seminar will explore theories of queer, trans, and travesti identities and sexualities, and in Luso-Afro-Brazilian and Latin American cultures to locate queer, feminist, Black, and indigenous intersections and examine formations of Black diaspora. Taught in English.

16:940:660 *Seminar: Advanced Topics In Hispanic Literature* (3)
This seminar examines highly focused topics and corresponding methodological approaches, with topics varying each semester.

Some examples include:

- ***Reel Change: Film and Socio-Political Transformation in Latin America***

In this seminar, we will explore the theory and praxis of politically committed cinema, studying a variety of notions regarding how it should look and sound; how it should be financed and who should create it; and how and to what ends it should engage with audiences. We will study a diverse range of Latin American films (narrative and genre cinema; documentary; animation; and experimental work) from different time periods, with special although not exclusive focus on the output of Mexico, Cuba and Argentina. Readings will include the major Latin American "manifestos" and other pertinent selections from film and socio-political criticism and theory from the region, as well as from the Anglo-European context.

Prior familiarity with film studies is not required; we will begin the semester with a crash course in the terminology and techniques of close textual analysis. The seminar will be taught in English, and all required films and readings will be available with English subtitles/in English translation. Students may pursue final projects related to their areas of expertise (i.e., they are welcome to work on politically committed films from regions other than Latin America).

This seminar will count as one of the two required "electives" for the Graduate Certificate in Cinema Studies.

- ***Performing the Caribbean***

This seminar examines the role of theatrical performance as a powerful site for collective remembrance and a critical intervention in the Caribbean's history of catastrophe and colonialism. Focusing on the enduring impacts of natural disasters, political upheaval, economic hardship, migrant crises, gender violence, and public health emergencies, the course explores how these events are not isolated ruptures but are deeply embedded in the region's colonial past and continue to shape its future. We analyze how theater and performance engage with the coloniality of catastrophe, raising public and political consciousness about disaster while imagining new possibilities for survival and world-building. The seminar also connects with broader fields of study, such as disaster studies, trauma studies, post-colonial theory, and environmental humanities, to explore how Caribbean performances offer unique perspectives on decolonizing catastrophe and envisioning alternative futures.

- ***Narrating Lives in (E)Motion***

In this seminar, we will explore various theoretical ideas within the field of Diaspora Studies. We will examine works by scholars such as Hall, Gilroy, Chow, Braziel, Manur, Ponzanesi, Hirsch, Massumi, Terada, Berlant, and Ahmed. By analyzing a wide range of Spanish texts that recount stories of displacement, including exile, travel, immigration, and other cultural encounters shaped by global processes, we aim to understand how Diaspora Studies are reshaping the field of Spanish Cultural Studies and challenging traditional notions of Spanish identity. Particular emphasis will be placed on how affect theories can help unravel the intricate web of race, gender, sexuality, and class in the construction of minoritized identity. Students will be encouraged to critically analyze other cultural and political contexts of the diaspora and develop their own research within this theoretical framework.

- ***Corporealities: Theories of the Body in and with Spanish and Argentine Cinema***

Notwithstanding the lack of co-presence of performers and spectators, film is one of the most dramatically corporeal of artistic media. The camera can move close into actors' faces, showing the tiniest muscular twitch, and even penetrate the flesh. It can also mimic human and superhuman movement, producing intensively proprioceptive experiences in audience members. Similarly, manipulation of multi-channel soundtracks may trigger overwhelming sensations of immersion or isolation. Special effects create compelling depictions of bodily transformation and transcendence, while unique experimentation with film stock enables the human eye to

perceive the world in a manner not otherwise available to our sensory apparatus. In this course we will study cultural and film theory regarding the body, and films from Spain and Argentina that also explore, invoke, interrogate, and theorize corporeal experiences. Topics to be treated include performance and star studies; body genres (melo, porn, horror); feminist film theory; film technologies and processes of racialization; body positivity / negativity; queer, trans and disability studies; and haptics. Filmmakers that may be discussed include (from Spain) Pedro Almodóvar, Luis Buñuel, Isabel Coixet, Víctor Erice, Julio Medem, Carlota Pereda, Paul Preciado, Carla Simón, and Iván Zulueta; and (from Argentina) María Luisa Bemberg, Fabián Bielinski, Israel Adrián Caetano, Albertina Carri, Leonardo Favio, Lucrecia Martel, Lucía Puenzo, and Leopoldo Torre-Nilsson. NB: films treated will include scenes of nudity, sex, violence, including sexualized violence, and other images that some students may find disturbing. Course taught in English; films (subtitled) will be made available through streaming, though students may need to pay a nominal fee to access a small number of recent works on platforms such as Vimeo or Amazon. Some recommended readings may be in other languages. Previous experience with film studies (or filmmaking) is welcome but not necessary; the semester will begin with a "crash course" in close film analysis. Requirements: careful preparation of texts, including brief weekly reflection posts, and active engagement in seminar discussions; one scene analysis presentation/short paper; and a final seminar paper, through which students may pursue projects related to their individual areas of specialization, beyond the specific contexts of Spain and Argentina.

- ***Literary Translation: Theory & Practice***

This course is both a seminar on the theory of literary translation and a workshop in which we will share, revise and refine our own translations-in-progress. We will read and discuss the major theoretical texts that make up the field of translation studies, including works by Dryden, Schleiermacher, Goethe, Benjamin, Jakobson, Borges, Heidegger, Steiner, Berman, Derrida, Appiah, Tedlock, Spivak, Levine, Apter, and Carson, and reflect on recent trends in the field. In our discussions, we will consider questions of translatability, fidelity, outdated hierarchies between original texts and their translations, and the charged politics and ethics of translation. Throughout the semester, we will compare different translations of literary texts in order to examine how each version works and discuss how translators make decisions of language, style, form, and cultural equivalency. Students will complete a short translation project halfway through the semester and at the end of the term, will prepare a final project, which may be either a literary or theoretical analysis or an original translation accompanied by a critical translator's introduction. Course meetings will be supplemented by visits and lectures from working translators and translation scholars, which may require attendance outside of class time (times and dates TBA). The prerequisites for this class include a demonstrable knowledge of a language other than English. Our common working language will be English.

16:940:661 ***Open Science and Reproducibility in Language Research*** **(3)**
Examines fundamental principles of open and reproducible research in SLA, linguistics, and psycholinguistics. Students learn details about the entire research process, from generating research questions, collecting and analyzing data, to writing and submitting a scientific report. The course focuses on how to make scientific research reproducible and shareable. Students develop foundation in common tools for data scientists (i.e. OSF, GitHub, Knitr, etc.), as well as understanding and implementing the current protocols of open science, i.e., pre-registration, registered reports, codebooks, and version control.

16:940:669 ***Practicum in Translation - Credits by Arrangement*** **(3)**
Extensive practice in translation under faculty supervision and in consultation with a bilingual expert in the subject area of each translation assignment. Introduction to the use of lexical management/computer-aided translation tools. Primary emphasis on medical translations for use in area hospitals and other health care facilities, but

assignments in other subject areas are also possible. One credit is equivalent to three hours of work per week. ***Prerequisite: Completion of twenty-four credits of course work and comprehensive examination, 16:940:502 or other advanced translation course. A credit hour is equivalent to 3 hours of work per week.***

16:940:670 ***Practicum in Translation- Credits by Arrangement*** **(3)**
Extensive practice in translation under faculty supervision and in consultation with a bilingual expert in the subject area of each translation assignment. Introduction to the use of lexical management/computer-aided translation tools. Primary emphasis on medical translations for use in area hospitals and other health care facilities, but assignments in other subject areas are also possible. One credit is equivalent to three hours of work per week. ***Prerequisite: Completion of twenty-four credits of course work and comprehensive examination, 16:940:502 or other advanced translation course. A credit hour is equivalent to 3 hours of work per week.***

Spanish 940 (SGS-SPANISH)

M.A.T. Degree Requirements

M.A.T. in Spanish Degree Requirements

A student must **complete a total of 30 credits**: 27 credits of course work and the 3 remaining credits dedicated to the development of an individual teaching portfolio based upon course work and work experiences/needs. **There is no comprehensive examination**. The courses should normally be distributed over the following areas:

- **3 credits in language teaching methods:**
  - Methods of World Language Teaching (K-12) - 617:500 or
  - Methods of Spanish Language Teaching (K-12) - 940:500 (preferred for MAT in Spanish students)
- **9 credits in core courses offered by The Language Center (program code 617) other than 617:500 from among the following:**
  - Theories of Second Language Acquisition and Learning - 617:502
  - Technology in the World Language Class (K-12) - 617:503
  - Assessment in the World Language Class- 617:504
  - Improvement in Oral Proficiency- language specific- 617:505
  - Languages across the Curriculum- 617:507/508
  - Topics in World Languages - 617:590/591
- **15 credits in Spanish (program code 940) including:**
  - Language Learning and the Brain - 940:578
  - The Sounds of Spanish - 940:580
  - Spanish language/linguistics courses tailored to the program, and
  - Spanish literature/culture-civilizations courses tailored to the program
- **3 credits in the Teaching Portfolio Project:**
  - The Portfolio Project - 617:599

*Before enrolling each term, students must have their course choices reviewed and approved by the Assistant Graduate Director.

What is a Teaching Portfolio?

Each student will prepare a teaching portfolio, a **3-credit individual project** that is to be completed and presented to a two-person committee during the year following the completion of the twenty-seven credits of course work. The student will select a portfolio director, specifically a professor with whom the student has taken courses at Rutgers, and in consultation with that director, choose another of the student's professors or a pedagogy expert associated with the core methods program, in order to form a two-person portfolio committee. *The portfolio may be presented in person or via appropriate electronic means acceptable to all parties.*

Spanish 940 (SGS-SPANISH)

M.A. in Spanish & English Translation and Interpreting

M.A. in Spanish and English Translation and Interpreting Degree Requirements

Course Requirements

Students must complete 24 credits of course work and an additional 6 credits of either thesis or practicum.

01:940:401 Advanced Translation I (3 cr.)
(This course will not be counted in the degree but may be required of some students as a prerequisite.)

Core Courses: Translation/Interpreting

(12 cr.-18cr. of which at least 3 cr. must be interpreting.) (This latter requirement is waived for practicing interpreters)

01:940:471 Internship in Translation/Interpreting (BA)
(This 1-3 credit option will be required of degree candidates who do not have experience as practicing translators or interpreters.)

01:940:476 Legal Translation (1.5 cr.)
16:617:535 Court Interpreting (3 cr.)
01:940:486 Medical Translation (1.5 cr.)
01:940:487 Hospital/Community Interpreting (1.5 cr.)
16:940:502 Translation of Specialized Texts (3 cr.)
16:617:531-Assisted Translation (1.5 cr.)
16:940:563 Theory and Practice of Translation (3 cr.)
16:940:575 or 16:617:533 Community and Simultaneous Interpreting (3 cr.)
16:940:579 Translation, Media, and Technology (3 cr.)

MA and graduate students need to add a G prefix when registering for the following courses to be counted towards graduation:

01:940:486 Medical Translation (1.5 cr.)
01:940:487 Hospital/Community Interpreting (1.5 cr.)
01:940:476 Legal Translation (1.5 cr.)
01:940:471 Internship in Translation/Interpreting (1-3 cr.)

Linguistics or related field (minimum of 3 cr.)

A course on linguistics or related field among the list of approved courses for the MA in Translation related to Research and Training Methodologies, Dialectology, Bilingualism or any other graduate course offered by our Department in the Bilingualism/Language Acquisition PhD or the MAT (Prior approval by faculty responsible for course required).Other appropriate linguistics theory courses, taught within or outside the Spanish program, are subject to approval by the Graduate Director. (Students who have had a substantial concentration of linguistics courses as an undergraduate may waive this requirement.)

Literature/Culture/Study Abroad (maximum of 6 cr.)

All degree candidates must have some study abroad or life experience in both English-speaking and Spanish-speaking countries. For native speakers of English, this requirement may be met through 6 credits taken in the Department's Summer Study in Peru and Spain program or other appropriate program. For foreign students coming from Spanish-speaking countries, this requirement may be met through appropriate English-language coursework within Rutgers University (possibilities include American Studies as well as offerings in the English Department). Degree candidates who have already met the study abroad requirement will fulfill their literature/culture component through 400-level or graduate courses in Hispanic literature/culture or British/American literature/culture, subject to approval by the Graduate Director.

Degree candidates who already have a substantial concentration in the relevant literature/culture area may choose additional translation/interpreting/linguistics or courses in a specialized field with approval of the Graduate Director.

Elective in Field of Specialization (3 cr.)

This is a flexible option, depending upon individual student need. The course may be outside the Graduate Program in Spanish, subject to approval by the graduate director.

Language Requirement:

The world language requirement may be completed by taking two semesters of an approved world language (in addition to the twenty-four credits of required coursework), one semester of an appropriate intensive course, or by passing a reading examination in the world language. Deadline to register in the **Summer Reading Knowledge Course programs is early May every year.** Here is the link for more information and to register.

The requirement will be waived for candidates who completed an undergraduate major or minor in or are native speakers of a third language, or who had extensive study abroad experience in a relevant country. Approval of the Graduate Director is required.

Examination

The comprehensive examination for the translation option will be based on coursework and includes three different types of translation. The exam must be taken before beginning the thesis or practicum. The exam lasts six hours and is administered in two parts on a single day. Students can use any reference material of their choice and will be administered using a departmental computer with unrestricted access to Internet resources. The first part replicates the American Translators Association Certification Examination and it includes both form and style-oriented translation. The second specialized part is based on the student's main field of expertise (prior to registering for the exam students will select their field of specialization in consultation with the program director). Students will prepare a comprehensive resource and documentation list throughout all of their coursework. The examination will have the following format:

Morning [3 hours]
a. Translation – Literary/Essay: Spanish to English or English to Spanish (Language B to Language A.)
b. Translation - Non-literary: Spanish to English or English to Spanish (Language A to Language B.)

Afternoon [3 hours]
a. Specialized Translation based on student´s field of choice (Language B to A) [450 to 500 words]

Grading Policy:

Each translation is graded independently by three faculty members appointed by the graduate director using a standardized translation grading scale. If a faculty member assigns a failing grade (i.e., below 70%) on any question, the faculty member will submit an explanation in writing. All scores are averaged.

- In order for the exam to be judged passing, the candidate's translations must average 80% (i.e., be of B quality) or better.
- If the examination average falls between 75% and 79%, the Graduate Director will call a meeting to discuss the examination and the Graduate Faculty will make a recommendation.
- If the examination average falls below 75%, the examination is considered an automatic failure.
- Faculty members will normally grade translations within thirty working days of the completion of the examination. The Graduate Director will then convey the results to the candidate in writing.
- In the case of a failure, the candidate may meet with the Director, the Chair, or other appropriate faculty to discuss the examination.

Statistics 960 (SGS-STATS)

STATISTICS 960

Degree Programs Offered: M.S., Ph.D.

Please visit the Statistics website.

Co-Graduate Director: Professor Tirthankar Dasgupta, 504 Hill Center for the Mathematical Sciences, Busch Campus (848-445-7271) td370@stat.rutgers.edu

Co-Graduate Director: Professor Han Xiao, 451 Hill Center for the Mathematical Sciences, Busch Campus (848-445-7640) hxiao@stat.rutgers.edu

Program Description

The Statistics program is for students with strong mathematical backgrounds who wish to pursue research-oriented careers in academia and industry. Students receive an in-depth study in probability theory, mathematical statistics, statistical computing, and special topics in modern data science and machine learning.

Click here Degree Types

- M.S. (Master of Science)
- Ph.D. (Doctor of Philosophy)

Campus Locations

Busch Campus - New Brunswick

Faculty

Warheed U. Bajwa, Professor of Electrical and Computer Engineering, SOE; Ph.D., Wisconsin (Madison)
Machine learning; high-dimensional statistics; statistical signal processing; networked systems; applications in biological, medical, and physical sciences

Pierre Bellec, Associate Professor of Statistics, SAS; Ph.D., ENSAE ParisTech (France); 2012: Part III (MASt), Cambridge, UK. 2011: Dipl. d'Ingénieur, Ecole Polytechnique, France.
High dimensional statistics, aggregation of estimators, shape constrained problems in statistics, probability theory.

Matteo Bonvini, Assistant Professor of Statistics, SAS; Ph.D., Carnegie Mellon
Causal inference; nonparametric methods; semiparametric efficiency theory.

Steve Buyske, Professor of Statistics, SAS; Ph.D., Brown University; Rutgers
Statistical genetics; biostatistics; psychometrics; experimental design.

Javier F. Cabrera, Professor of Statistics, SAS; Ph.D., Princeton
Biostatistics, Data mining methodology for clinical trial data, Functional Genomics data, DNA and Protein array data, and DNA Barcode data. Statistical computing, graphics, and machine vision.

Rong Chen, Chair and Distinguished Professor of Statistics, SAS; Ph.D., Carnegie Mellon
Nonlinear and multivariate time series analysis; Monte Carlo methods, statistical computing, and Bayesian analysis; statistical applications in economics and business; statistical applications in bioinformatics

Yaqing Chen, Assistant Professor of Statistics, SAS; Ph.D., California (Davis)
Random objects taking values in a metric space; distributional data; manifold data; statistical applications in longitudinal studies, biological and medical sciences, and social sciences

Harry Crane, Professor of Statistics, SAS; Ph.D., Chicago
Probability theory and stochastic processes; clustering and other applications in genetics, network analysis, and homeland security; combinatorics and discrete mathematics

Tirthankar Dasgupta, Professor of Statistics, SAS; Ph.D., Georgia Institute of Technology;
Experimental design, causal inference, sequential exploration of complex surfaces, statistical applications in nanoscience and nanotechnology, statistical methodology in geometric shape error modeling and control, quality engineering and statistical process control.

Ruobin Gong, Associate Professor of Statistics, SAS; Ph.D., Harvard
Theoretical foundations of uncertainty reasoning, Bayesian and generalized Bayesian methodology, random sets, imprecise probability, and Dempster-Shafer theory of belief function. Statistical inference computation with differentially private data, and ethical implications of modern data science.

Derek Gordon, Associate Professor of Genetics, SAS; Ph.D., Stony Brook
Genetic linkage and association methods, Patient Derived Xenograft drug screening methods.

Mert Gürbüzbalaban, Associate Professor in Department of Management Science and Information Systems, RBS, Ph.D., New York University
Monte Carlo methods, high-dimensional statistics, optimization, machine learning, data science.

Qiyang Han, Associate Professor of Statistics, SAS; Ph.D. Washington
Mathematical statistics and high dimensional probability, abstract empirical process theory, and its applications to nonparametric function estimation (with a special focus on shape-restricted problems), Bayes nonparametrics, and high dimensional statistics.

Donald R. Hoover, Professor of Statistics, SAS; Ph.D., Stanford
Longitudinal methods; observational studies; clinical trials; health care utilization, Epidemiology, group randomization and multiple comparisons.

Liangyuan Hu, Associate Professor of Biostatistics; SPH; Ph.D., Brown
Causal Inference, Missing Data, Bayesian data analysis, Machine Learning

Yifan Hu, Assistant Professor of Statistics, SAS; PhD., Illinois (Urbana-Champaign)
Decision-making under uncertainty, with an intersection of optimization, statistics, and machine learning

Ying Hung, Professor of Statistics, SAS; Ph.D., Georgia Institute of Technology
Computer Experiments; design of experiments

Koulik Khamaru, Assistant Professor of Statistics, SAS; Ph.D., California (Berkeley)
Theory and application of statistics, machine learning and optimization.

John E. Kolassa, Distinguished Professor of Statistics, SAS; Ph.D., Chicago
Asymptotics; biostatistics; applications of statistics in nursing and criminal justice

Robert Kopp, Distinguished Professor of Earth and Planetary Science, SAS; Ph.D., California Institute of Technology
Understanding uncertainty in past and future climate change, with major emphases on sea-level change, the interactions between physical climate change and the economy, and the use of climate risk information to inform decision-making.

Regina Y. Liu, Distinguished Professor of Statistics, SAS; Ph.D., Columbia
Data depth, fusion learning, confidence distribution, resampling, nonparametric and robust statistics, aviation risk analysis

Yuetian Luo, Assistant Professor of Statistics, SAS; Ph.D. in Statistics, Wisconsin (Madison)
Distribution-free inference, robust statistics, algorithmic stability, computational complexity of statistical inference, tensor learning and non-convex optimization

Gemma Moran, Assistant Professor of Statistics, SAS; Ph.D., Pennsylvania
Flexible Bayesian models for analyzing high-dimensional data.

Nicole Pashley, Assistant Professor of Statistics, SAS; Ph.D., Harvard
Causal inference, experimental design and analysis using randomization-based framework

Harold B. Sackrowitz, Distinguished Professor of Statistics, SAS; Ph.D., Columbia
Inference and decision theory; multiple endpoint procedures, acceptance sampling; order-restricted inference

Anand Sarwate, Associate Professor of Electrical and Computer Engineering, SOE; Ph.D., California (Berkeley)
Distributed optimization and signal processing, machine learning and statistics, information theory, and privacy-preserving data analysis

Glenn Shafer, University Professor and Board of Governors Professor; Ph.D. Princeton
Game-theoretic statistics and history of probability and statistics.

Michael Stein, Distinguished Professor of Statistics, SAS; Ph.D., Stanford
Spatial and spatial-temporal statistics, extremes, environmental statistics, statistical climatology.

Zhiqiang Tan, Distinguished Professor of Statistics, SAS; Ph.D., Chicago
Nonparametric and semiparametric statistics; applications in causal inference; survey sampling; Monte Carlo integration

David E. Tyler, Distinguished Professor of Statistics, SAS; Ph.D., Princeton
Multivariate analysis; robust statistics; directional data; psychometrics; computer vision and time series; functional data analysis

Guanyang Wang, Assistant Professor of Statistics, SAS; Ph.D., Stanford
Markov chain Monte Carlo, Machine Learning, Probability, Quantum Computing

Sijian Wang, Professor of Statistics, SAS; Ph.D., Michigan
Big-data analytics, statistical learning, proteomics, cancer genomics, precision medicine, bioinformatics, high-performance statistical computing, survival data analysis, longitudinal data analysis and statistical modeling.

Han Xiao, Professor of Statistics, SAS; Ph.D., Chicago
Nonlinear and nonstationary time series; high dimensional analysis, algebraic statistics; random matrix theory

Minge Xie, Distinguished Professor of Statistics, SAS; Ph.D., Illinois
Statistical inference; latent models; longitudinal data analysis and estimating equations; robust statistics; biostatistics, foundation of data science, statistical model, asymptotics, and interdisciplinary research

Min Xu, Associate Professor of Statistics, SAS; Ph.D., Carnegie Mellon
Network analysis, nonparametric estimation, and high-dimensional statistics.

Cun-Hui Zhang, Distinguished Professor of Statistics, SAS; Ph.D., Columbia
Empirical Bayes; high-dimensional data; functional MRI, network data, semiparametric and nonparametric methods, survival analysis and incomplete data; statistical inference; probability theory

Linjun Zhang, Associate Professor of Statistics, SAS; Ph.D.,
Machine Learning, Deep Learning, High-Dimensional Statistics, Ethical Data Analysis (Data Privacy and Algorithmic Fairness)

Peng Zhang, Assistant Professor of Computer Science, SAS, Ph.D., Georgia Tech
Theoretical computer science, which studies computer science by using mathematical tools.

Statistics 960 (SGS-STATS)

M.S. Degree Requirements

M.S. Degree Requirements

Prerequisites

Admission to the Statistics graduate program at Rutgers has a number of prerequisites. Applicants may be required to take some preliminary non-graduate courses. Students are not required to have taken a formal course in statistical methods; however, students whose educational background lacks a suitable course in statistical methods may be required to take 960:484. Credit for STAT 484 or any other undergraduate level courses (at Rutgers or elsewhere) **cannot** be counted toward the 30 credit graduation requirement.

Formal Credit Requirements

M.S. candidates must have at least 30 semester-hours of approved graduate credits of which all grades have to be at least C+, and no more than two can be C+. Students must also maintain a GPA of 3.0 or higher.

Language Requirement

There is no foreign language requirement for the M.S. degree.

Transfer of Credits

Up to 12 credits of such acceptable credits may be permitted to be applied for the M.S. degree. This is subject to individual consideration.

A Guide for Courses and Electives for M.S. in Applied and Mathematical Statistics.

The Syllabi for the most recent versions of these courses can be found **here**. Required Courses:

563 Regression Analysis (Fall)
582 Introduction to Methods and Theory of Probability (Fall)
583 Methods of Statistical Inference (Spring) Electives:
540 Statistical Quality Control (Summer)
542 Life Data Analysis (Spring)
545 Statistical Practice (Fall)
553 Categorical Data Analysis (Fall)
555 Nonparametric Statistics (Fall)
565 Applied Time Series Analysis (Spring)
567 Applied Multivariate Analysis (Spring)
568 Bayesian Data Analysis (Spring)

576 Survey Sampling (Spring)
588 Data Mining (Fall)
590 Design of Experiments (Fall)

Approved graduate courses offered by other departments related to statistics and machine learning include, but are not necessarily limited to:

16:198:512 Design/Analysis of Data Structure and Algorithm (Fall & Spring, Computer Science Department)
16:198:520 Intro to Artificial Intelligence (Fall & Spring, Computer Science Department)
16:198:536 Machine Learning (Spring, Computer Science Department)
16:332:443 Machine Learning For Engineers (ECE Department)
16:332:530 Introduction to Deep Learning (ECE Department)
26:711:685 Special Topics In Management Science - Optimization Methods For Machine Learning (Fall 2024)

Note:

(i) 582 and 583 can be replaced by 592 and 593, their Ph.D. level counterparts respectively, subject to approval of the graduate directors and the course instructors.
(ii) Students can only have credit for one of 582, 592.
(iii) Students can only have credit for one of 583, 593.

Research Requirements

The M.S. degree requires the submission of a paper on some topic in statistics. Ordinarily, this will be satisfied by the submission of an acceptable paper done as a course project.

Exit Presentation

The student will deliver a presentation summarizing key takeaways from **one specific** graduate-level course (of their choice) taken in the Statistics Department. Alternatively, the presentation may be based on the written project submitted to fulfill the MS writing requirement.

After the presentation, the committee members will ask questions related to the material presented.

Statistics 960 (SGS-STATS)

Ph.D. Degree Requirements

Ph.D. Program Description

The degree of Doctor of Philosophy is a research degree, conferred in recognition of marked ability and scholarship and high scholastic attainment and original research in Statistics. The degree is conferred after successful completion of an acceptable thesis summarizing substantial results of original research work relevant to Statistics. Thesis work will be carried on with the general guidance and under the supervision of the candidate's Thesis Advisor.

Areas of specialization for research include any topic suitable for research in applied or theoretical statistics, including statistical inference, estimation theory, hypothesis testing, machine learning, decision theory, empirical Bayes and Bayes methods, regression analysis, analysis of variance, statistical computing, experimental design, multivariate analysis, nonparametric statistics, sequential analysis, time series analysis, applied probability, stochastic processes, and probability theory.

Formal Credit Requirements

Ph.D. candidates must ordinarily have at least 72 semester-hours of approved graduate credits. This will generally consist of 48 hours of course credits and the remainder of the 24 hours as research credits.

Transfer of Credits

Up to 12 credits of such acceptable credits may be permitted to be applied for the Ph.D. degree. This is subject to individual consideration.

A Guide for Courses and Electives for Ph.D. in Applied and Mathematical Statistics

Required Courses: (To be taken in the first year of study)

592 Theory of Probability (Fall)
593 Theory of Statistics (Fall)
594 Advanced Modern Statistical Inference II (Spring)
596 Advanced Applied Statistics I (Fall)
597 Advanced Applied Statistics II (Spring)
654 Stochastic Processes (Spring)

Electives:

652 Advanced Theory of Stat I (Fall)
653 Advanced Theory of Stat II (Spring)
663 Regression Theory (Fall)
665 Advanced Time Series Analysis (Fall)
667 Multivariate Analysis (Spring)
669 Advanced Spatial Statistics (Spring)
687-688 Seminar in Applied and Mathematical Statistics (Spring)
680 Advanced Probability Theory I (Fall)
681 Advanced Probability Theory II (Spring)
690 Special Topics (topics on rotating basis): Trustworthy Statistical Learning, Reinforcement Learning and Generative Models, Optimization, History of Probability & Statistics
691 Special Topics (topics on rotating basis): Applied Statistics Seminar

Graduate courses offered in our M.S. Program, subject to approval of advisor and/or graduate directors can be found online.

Approved graduate courses offered by other departments (e.g. Math, CS, or ECE) can be found online.

Link to Typical Ph.D. Plan

Examination Requirement

A precondition to being formally admitted as a Ph.D. candidate is that the student pass the Ph.D. Examinations, the purpose of which is to determine the breadth of the student's mastery of their major and minor fields. The first of these exams is a comprehensive written qualifying exam on all first-year course material. The qualifying exam is taken before the second-year and consists of two parts: one in-class written exam on mathematical statistics and probability theory, and a take-home exam on applied statistics. Progress toward the Ph.D. is monitored throughout the second and third years, culminating in a written thesis proposal (due by the end of the 2nd semester of the third year) and an oral thesis proposal (presented no later than the 1st semester of the fourth year).New subpage content

Course Descriptions

Course Descriptions

In the following course list, the Level V statistics prerequisite for some courses may be fulfilled by 16:960:563 or 586 or 593, while the Level IV statistics prerequisite may be fulfilled by 01:960:401 or 484 or 16:960:590 or Level V statistics. Students believing that they have had an experience comparable to that required as a prerequisite, generally through coursework at another university, should contact the graduate director, who will waive the prerequisite when justified.

16:960:540 ***Statistical Quality Control I (3)***
Construction and analysis of control charts for variables and attributes; histogram analysis; use and evaluation of Dodge-Romig and Military Standards acceptance sampling plans.
Prerequisite: 16:960:580, 582, or 592.

16:960:542 ***Life Data Analysis (3)***
Statistical methodology for survival and reliability data. Topics include life-table techniques; competing risk analysis; parametric and nonparametric inferences of lifetime distributions; regressions and censored data; Poisson and renewal processes; multistate survival models and goodness-of-fit test. Statistical software used.
Prerequisites: One year of calculus and Level V statistics.

16:960:545 ***Statistical Practice (3)***
Objectives of statistical collaboration; problem definition; formation of solutions; active consultation; tools of statistical practice; searching literature; data collection form design; codebook development; data entry and cleaning; and documentation and presentation of statistical analysis.
Prerequisite: Level IV statistics.

16:960:553 ***Categorical Data Analysis (3)***
Two-by-two frequency tables; Fisher's exact test; measures of association; general contingency tables; loglinear models; logistic regression; repeated categorical-response data; maximum likelihood estimation; and tables with ordered categories.
Prerequisite: Level V statistics.

16:960:555 ***Nonparametric Statistics (3)***
Introduction and survey of distribution-free approaches to statistical inference. Fisher's method of randomization; distribution-free test procedures for means, variances, correlations, and trends; rank tests; relative efficiency,

asymptotic relative efficiency, and normal-score procedures; binomial, hypergeometric distributions, and combinatorial run theory. Also, tests of goodness-of-fit, including the Kolmogorov-Smirnov and chi-square tests, contingency-table analysis, tolerance sets, and Tchebycheff-type inequalities. Emphasis on applications.
Prerequisites: Level IV statistics, and 16:960:580 or 582 or 592.

16:960:563 ***Regression Analysis (3)***
Review of basic statistical theory and matrix algebra; general regression models; computer application to; residual analysis; selection of regression models; response surface methodology; experimental design models; and analysis of covariance. Emphasis on applications.
Prerequisite: Level IV statistics.

16:960:565 ***Applied Time Series Analysis (3)***
Model-based forecasting methods; autoregressive and moving average models; ARIMA, ARMAX, ARCH, and state-space models; estimation, forecasting, and model validation; missing data; irregularly spaced time series; parametric and nonparametric bootstrap methods for time series; multiresolution analysis of spatial and time-series signals; and time-varying models and wavelets.
Prerequisite: Level V statistics.

16:960:567 ***Applied Multivariate Analysis (3).***
Displays and descriptive statistics for multivariate data; principal component analysis; multivariate distribution theory; estimation and testing for one- and two-sample problems; MANOVA and multivariate regression; factor analysis; canonical correlation analysis; discriminant analysis; clustering analysis.
Prerequisite: Level V statistics.

16:960:568 ***Bayesian Data Analysis (3)***
An introduction to Bayesian statistical modeling, inference, and computation. Single- and multiparameter models, hierarchical models, model checking, evaluation, selection, sensitivity analysis and prediction. Bayesian decision analysis. Monte Carlo and Markov chain Monte Carlo (Metropolis-Hastings, Gibbs). Select topics in advanced Bayesian computation, e.g. Hamiltonian Monte Carlo and approximate Bayesian computation.
Prerequisite: 16:960:582 or 16:960:592, 16:960:583 and level IV statistics.

16:960:576 ***Survey Sampling (3)***
Introduction to the design, analysis, and interpretation of sample surveys. Sampling types covered include simple random, stratified random, systematical, cluster, and multistage. Methods of estimation described to estimate means, totals, ratios, and proportions. Development of sampling designs combining a variety of types of sampling and methods of estimation, and detailed description of sample size determinations to achieve goals of desired precision at least cost.
Prerequisite: 16:960:580, 582, or 592.

16:960:582 ***Introduction to Methods and Theory of Probability (3)***
Emphasis on methods and problem solving. Topics include probability spaces, basic distributions, random variables, expectations, distribution functions, conditional probability and independence, and sampling distributions.
Prerequisite: 16:640:251. Credit given for only one of 16:960:580, 582, 592.

16:960:583 ***Methods of Inference (3)***
Theory of point and interval estimation and hypothesis testing. Topics include sufficiency, unbiasedness, and power functions. Emphasis on application of the theory in the development of statistical procedures.
Prerequisite: 16:960:580, 582, or 592. Credit not given for both this course and 16:960:593.

16:960:584 ***Biostatistics I--Observational Studies (3)***
Statistical techniques for biomedical data. Analysis of observational studies is emphasized. Topics include measures of disease frequency and association; inferences for dichotomous and grouped case-control data; logistic regression for identification of risk factors; Poisson models for grouped data; bioassay. SAS used in analysis of data.
Prerequisites: One year of calculus and Level V statistics.

16:960:585 ***Biostatistics II--Clinical Trials (3)***
Statistical and practical design, conduct, and analysis of controlled clinical experiments. Topics include introduction to phases of clinical trials; power and sample size estimation; randomization schemes; study design; human subject considerations and recruitment; data collection design and process; data monitoring and interim analysis; baseline covariate adjustment and data analysis; and writing and presenting results. Standard statistical software used for randomization, power/sample size estimation, and data analysis; 16:960:584 Biostatistics I is not required.
Prerequisite: Level IV statistics.

16:960:588 ***Data Mining (3)***
Databases and data warehousing; exploratory data analysis and visualization; an overview of data mining algorithms; modeling for data mining; descriptive modeling; predictive modeling; pattern and rule discovery; text mining; Bayesian data mining; and observational studies.
Prerequisites: 16:960:567 and 587.

16:960:590 ***Design of Experiments (3)***
Fundamental principles of experimental design; completely randomized variance component designs; randomized blocks; Latin squares; incomplete blocks; partially hierarchic mixed-model experiments; factorial experiments; fractional factorials; and response surface exploration.
Prerequisite: 01:960:484 or 401 or equivalent.

16:960:592 ***Theory of Probability (3)***
Emphasis on proofs and fundamental concepts. Topics include probability spaces, basic distributions, random variables, expectations, distribution functions, conditional probability and independence, and sampling distributions.
Prerequisite: Advanced calculus. Credit given for only one of 16:960:580, 582, 592.

16:960:593 ***Theory of Statistics (3)***
Advanced class with emphasis on proofs and fundamental concepts. Theory of point and interval estimation and hypothesis testing, with emphasis on fundamental concepts underlying the theory. Admission to the statistics doctoral program or consent of the program director.

16:960:594 ***Advanced Modern Statistical Inference II (3)***
Classical large sample theory, high dimensional inference.
Prerequisite: 16:960:593.

16:960:596 ***Intermediate Statistical Methods (3)***
An introduction to modern statistical methods for students in the statistics and biostatistics doctoral program. Exploratory methods and linear and nonlinear regression models.
Prerequisite: Admission to the statistics doctoral program or consent of the program director.

16:960:597 ***Advanced Applied Statistics II (3)***
Supervised learning (Classification, Linear discriminate analysis), Unsupervised learning (Clustering methods, Factor analysis, o Principal component analysis and independent component analysis ICA), Data aggregation – boosting, bagging, Jackknife and Bootstrap, Modeling of spatiotemporal data, Bayesian computing – MCMC, Neural Network (CNN, RNN, and maybe Diffusion models).
Prerequisite: 16:960:596

16:960:652 ***Advanced Theory of Statistics I (3)***
Theories of statistical inference and their relation to statistical methods; sufficiency, invariance, unbiasedness, decision theory; Bayesian procedures and likelihood procedures.
Prerequisites: 16:960:593 and 01:640:412.

16:960:653 ***Advanced Theory of Statistics II (3)***
m- and z- estimators, consistency and rate of convergence, asymptotic normality, continuous mapping theorem and delta-method, maximal inequalities, density estimation, nonparametric regression, adaptive estimation, hypothesis testing, most powerful tests, efficiency in testing, generalized likelihood ratio tests, simultaneous inference, multiple testing, false discovery rate, information lower bounds, regularized estimation, regression in high-dimension, gaussian concentration in matrix estimation, optimization methods and matrix completion.
Prerequisite: 16:960:592.

16:960:654 ***Stochastic Processes (3)***
Selected topics from the theory of the Markov processes, queuing theory, birth and death processes, martingale theory, and Brownian motion and related topics. Measure-theoretic notations, as well as ideas from classical analysis used as needed.
Prerequisite: 16:960:592.

16:960:656 ***Trustworthy Statistical Learning (3)***
Data privacy, algorithmic fairness, robustness, large language models.
Prerequisites: 16:960:582 and 16:960:583.

16:960:663 ***Regression Theory (3)***
Least-squares methods of testing and estimation in multiple regression; geometric interpretation of least-squares; and the Gauss-Markov theorem. Confidence, prediction, and tolerance intervals in regression. Orthogonal polynomials; harmonic regression; weighted least-squares; analysis of variance; and simultaneous inference procedures (multiple comparisons). Emphasis on theory.
Prerequisites: 16:960:593 and 01:640:350.

16:960:664 ***Advanced Topics in Regression and Anova (3)***
Development of linear classification models; general results of components of variance for balanced designs; polynomial regression models (response surfaces); crossed models for combined qualitative and quantitative factors; reduced regression models; and nonlinear regression computational and statistical procedures.
Prerequisite: 16:960:663.

16:960:665 ***Advanced Time Series Analysis (3)***
Stochastic processes, stationarity, autocovariance functions. Spectral representation, spectral decomposition, ARMA Models. ARMA processes, linear prediction, estimation, Asymptotic theory for the MLE, Ergodic theorem and CLT for stationary processes, Strict stationarity, measure preserving transformation, ergodic theorem, CLT for strictly stationary processes, mixing conditions, dependence measures, Analysis of complex time series data, VAR models, Dynamic factor models, Matrix and tensor-valued time series.
Prerequisite: 16:960:592 and 16:960:593.

16:960:667 ***Multivariate Statistics (3)***
Multivariate, marginal, and conditional distributions. Multivariate normal; characterizations and parameter estimation. Wishart distribution; Hotelling's T2 statistic; multivariate linear model; and principal component analysis correlations. Multivariate classification; matrices and discriminate methods. Emphasis on theory.
Prerequisite: 16:960:663.

16:960:669 ***Advanced Spatial Statistics (3)***
Underlying theory for gaussian processes as it relates to estimating covariance functions and interpolation of irregularly observed spatial and spatio-temporal data. Practical problems with applying methods from spatial statistics to real data.
Prerequisite: 16:960:592 and 16:960:593.

16:960:680 ***Advanced Probability Theory I (3)***
Measures, measurable functions, and integration; limit theorems; Lebesgue measure; Riemann integral; Lebesgue-Stieltjes integral; measure extension, probability measures, and random variables; expectation, distribution, and independence. Borel-Cantelli lemma; zero-one law; convergence in distribution; convergence in probability; almost sure convergence; law of large numbers; Jensen, Holder, and Minkowski inequalities; convergence in mean; uniform integrability and spaces of functions.
Prerequisite: 16:960:592.

16:960:681 ***Advanced Probability Theory II (3)***
Characteristic functions; the Lindeberg central limit theorem; Helly's selection theorem; convergence of multivariate distribution functions; conditional probability, the Radon-Nikodym theorem; conditional expectation, martingales, and the optional stopping theorem. Doob's inequalities; martingale convergence theorems; random walk; Markov chains; recurrence and transience; stationary measure and convergence theorems for Markov chains. Product measures; Fubini's theorem; Kolmogorov consistency theorem; weak convergence of stochastic processes; Brownian motion; and the law of the iterated logarithm.
Prerequisite: 16:960:680.

16:960:682,683 ***Individual Studies in Statistics (3,3)***
Prerequisite: Permission of program director.

16:960:689 ***Sequential Methods (3)***
Sequential probability ratio test; approximations for the stopping boundaries, power curve, and expected stopping time; termination with probability one; existence of moments for the stopping time; Wald's lemmas and fundamental identity; and Bayes character and optimality of the SPRT. Composite hypotheses: weight-function and invariant SPRTs. Sequential estimation, including fixed-width confidence intervals and confidence sequences.
Prerequisites: 16:960:593 and 680.

16:960:690,691 ***Special Topics (3,3)***
Topics, which change on a rotating basis, include large sample theory, time series analysis, Bayesian statistics, robustness, and sequential analysis.
Prerequisite: Permission of program director.

16:960:693 ***Current Topics in Statistics (0)***
Topics change based on statistical research and applications of faculty in and outside the department.
Prerequisite: Permission of program director.

16:960:694,695,696 ***Special Topics in Statistics (1,1,1)***
Modern statistics and interdisciplinary topics not regularly covered in the graduate program.
Prerequisite: Permission of program director.

16:960:701,702 ***Research in Statistics (BA,BA)***

Statistics 960 (SGS-STATS)

Programs

Programs

The faculty of statistics offers graduate programs leading to the Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) degrees. The M.S. program emphasizes statistical methods and applications. The Ph.D. program offers specializations in applied and theoretical statistics and probability theory.

M.S. candidates must have at least 30 semester-hours of approved graduate credits of which all grades have to be at least C+, and no more than two can be C+. Students must obtain a GPA of 3.0 or higher, submit an approved essay and deliver an exit presentation. The required courses for the M.S. degree include 16:960:563 Regression Analysis; 16:960:582 Introduction to Methods and Theory of Probability and 16:960:583 Methods of Inference. The remaining seven elective courses should be chosen from the courses listed through the M.S. Degree Program site, some of which can be taken from other departments subject to prior approval of the graduate directors. Requirements for the M.S. program may be satisfied in a part-time evening program.

The Ph.D. program requires 48 course credits and a dissertation. Students are required to accumulate 24 research credits while writing their theses. Research work follows successful completion of qualifying examinations. The first qualifying examination is a comprehensive written exam on all first-year course material, comprising the following courses: 16:960:592 (Theory of Probability), 16:960:593 (Theory of Statistics), 16:960:596 (Advanced Applied Statistics I), 16:960:654 (Stochastic Processes), 16:960:594 (Advanced Modern Statistical Inference II), and 16:960:597 (Advanced Applied Statistics II). This qualifying exam is taken before the second year and consists of two parts: one in-class written exam on mathematical statistics and probability theory, and a take-home exam on applied statistics.. Progress toward the PhD is monitored throughout the second and third years, culminating in a written thesis proposal due by the end of the third year and an oral thesis proposal presented no later than the first semester of the fourth year.

An entering Ph.D. student should have a good background in mathematics, including real analysis and linear algebra. Each student selects his or her program in conference with a department advisor. There is a wide range of course offerings and areas of research. These include statistical inference (including high dimensional inference), machine learning, experimental design, causal inference, time series analysis (including matrix and tensor time series), spatial

statistics and space-time analysis, statistical computing, robust statistics, applied probability, stochastic processes, differential privacy, large language models, generative models and reinforcement learning. Information about recommended course sequences for degrees is available through the Ph.D. Typical Plan site.

The graduate program in statistics offers an M.S. track in financial statistics and risk management. It is listed separately under "Financial Statistics and Risk Management 958." Its objective is to train students to become professional statisticians/risk managers working in financial institutions and related fields. Interested students should check the 958 catalog entry and apply to that program directly.

The graduate program in statistics also offers a professional M.S. track in data science. It is listed separately under MSDS 954. Its objective is to provide students with a deep understanding of the algorithmic tools and computational infrastructure necessary to manage, explore, and make sense of uncertain and complex data, and equip students with strong technical skills for data analytics, visualization, and summarization. Interested students should check the 954 catalog entry and apply to that program directly.

Further information on all programs may be found on the web at the Department of Statistics website.

Statistics 960 (SGS-STATS)

Admission Deadlines

Admission Deadlines

APPLICATION TYPE	US APPLICANTS	NON-US APPLICANTS	MERIT-BASED AID
Ph.D.	January 10	January 10	January 10
M.S.	May 1	May 1	December 1

Statistics - Data Science 954 (SGS-DS)

STATISTICS - DATA SCIENCE 954

Degree Programs Offered: M.S.

Co-Graduate Director: Professor Cun-Hui Zhang, 580 Hill Center for the Mathematical Sciences, Busch Campus; (848-445-7685); czhang@stat.rutgers.edu

Co-Graduate Director: Professor Sijian Wang, 490 Hill Center for the Mathematical Sciences, Busch Campus; (848-445-7622); sijian.wang@stat.rutgers.edu

Please visit the Data Science website.

Program Highlights

- 30-Credit Program that can be completed in three full-time semesters
- All evening classes to accommodate part-time students
- Program qualifies for the DHS STEM designation, giving International students up to 36 months of practical training authorization without corporate sponsorship

With increasing data collection and advances in computational capabilities, the analysis of massive data sets and the extraction of useful information have become major emerging frontiers in computer science, statistics, and related fields. As modern information technologies generate ever more voluminous and complex data, analytical tools with solid foundations in algorithms, optimization, systems building, visualization, and statistical theory and methodology have become indispensable to industry and society at large.

Data Science has deep roots in computer science, optimization, probability, and statistical inference, and it is therefore critical that any Data Science program foster close collaboration between the Departments of Statistics and Computer Science. Rutgers' MSDS program does just that!

By unifying principles, methodologies and theories in probability, statistics, optimization, machine learning, informatics and related fields, this program prepares students to deeply understand and insightfully analyze real-world phenomena using data

Program Description

The Master of Science in Data Science (MSDS) program offers a 30-credit degree that provides graduates with:

- A deep understanding of the algorithmic tools and computational infrastructure necessary to manage, explore, and make sense of uncertain and complex data
- Computational skills to apply inference principles and prediction techniques to extract actionable value from data repositories
- Strong technical skills for data analytics, visualization, and summarization
- The necessary communication and leadership skills for successful careers as data science professionals

Faculty:

Warheed U. Bajwa, Professor of Electrical and Computer Engineering, SOE; Ph.D., Wisconsin (Madison).
Machine learning; high-dimensional statistics; statistical signal processing; networked systems; applications in biological, medical, and physical sciences.

Pierre Bellec, Associate Professor of Statistics, SAS; Ph.D., ParisTech. 2012: Part III (MASt), Cambridge. 2011: Dipl. d'Ingénieur, Ecole Polytechnique.
High dimensional statistics, aggregation of estimators, shape constrained problems in statistics, probability theory.

Matteo Bonvini, Assistant Professor of Statistics, SAS; Ph.D., Carnegie Mellon.
Causal inference; nonparametric methods; semiparametric efficiency theory.

Steve Buyske, Professor of Statistics, SAS; Ph.D., Brown; Rutgers.
Statistical genetics; biostatistics; psychometrics; experimental design.

Javier F. Cabrera, Professor of Statistics, SAS; Ph.D., Princeton.
Biostatistics, Data mining methodology for clinical trial data, Functional Genomics data, DNA and Protein array data, and DNA Barcode data. Statistical computing, graphics, and machine vision.

Rong Chen, Chair and Distinguished Professor of Statistics, SAS; Ph.D., Carnegie Mellon.
Nonlinear and multivariate time series analysis; Monte Carlo methods, statistical computing, and Bayesian analysis; statistical applications in economics and business; statistical applications in bioinformatics.

Yaqing Chen, Assistant Professor of Statistics, SAS; Ph.D. California (Davis).
Random objects taking values in a metric space; distributional data; manifold data; statistical applications in longitudinal studies, biological and medical sciences, and social sciences.

Harry Crane, Professor of Statistics, SAS; Ph.D., Chicago.
Probability theory and stochastic processes; clustering and other applications in genetics, network analysis, and homeland security; combinatorics and discrete mathematics

Tirthankar Dasgupta, Professor of Statistics, SAS; Ph.D., Georgia Institute of Technology.
Experimental design, causal inference, sequential exploration of complex surfaces, statistical applications in nanoscience and nanotechnology, statistical methodology in geometric shape error modeling and control, quality engineering and statistical process control.

Ruobin Gong, Associate Professor of Statistics, SAS: Ph.D., Harvard.
Theoretical foundations of uncertainty reasoning, Bayesian and generalized Bayesian methodology, random sets, imprecise probability, and Dempster-Shafer theory of belief function. Statistical inference computation with differentially private data, and ethical implications of modern data science.

Derek Gordon, Associate Professor of Genetics, SAS; Ph.D., Stony Brook.
Genetic linkage and association methods, Patient Derived Xenograft drug screening methods.

Mert Gürbüzbalaban, Associate Professor in Department of Management Science and Information Systems, RBS, Ph.D., New York University.
Monte Carlo methods, high-dimensional statistics, optimization, machine learning, data science.

Qiyang Han, Associate Professor of Statistics, SAS; Ph.D., Washington.
Mathematical statistics and high dimensional probability, abstract empirical process theory, and its applications to nonparametric function estimation (with a special focus on shape-restricted problems), Bayes nonparametrics, and high dimensional statistics.

Donald R. Hoover, Professor of Statistics, SAS; Ph.D., Stanford.
Longitudinal methods; observational studies; clinical trials; health care utilization, Epidemiology, group randomization and multiple comparisons.

Liangyuan Hu, Associate Professor of Biostatistics; SPH; Ph.D., Brown.
Causal Inference, Missing Data, Bayesian data analysis, Machine Learning

Yifan Hu, Assistant Professor of Statistics, SAS; PhD., Illinois (Urbana-Champaign).
Decision-making under uncertainty, with an intersection of optimization, statistics, and machine learning.

Ying Hung, Professor of Statistics, SAS; Ph.D., Georgia Institute of Technology.
Computer Experiments; design of experiments

Koulik Khamaru, Assistant Professor of Statistics, SAS; Ph.D., California (Berkeley).
Theory and application of statistics, machine learning and optimization.

John E. Kolassa, Distinguished Professor of Statistics, SAS; Ph.D., Chicago.
Asymptotics; biostatistics; applications of statistics in nursing and criminal justice

Robert Kopp, Distinguished Professor of Earth and Planetary Science, SAS; Ph.D., California Institute of Technology.
Understanding uncertainty in past and future climate change, with major emphases on sea-level change, the interactions between physical climate change and the economy, and the use of climate risk information to inform decision-making.

Regina Y. Liu, Distinguished Professor of Statistics, SAS; Ph.D., Columbia.
Data depth, fusion learning, confidence distribution, resampling, nonparametric and robust statistics, aviation risk analysis.

Yuetian Luo, Assistant Professor of Statistics, SAS; Ph.D. in Statistics, Wisconsin (Madison).
Distribution-free inference, robust statistics, algorithmic stability, computational complexity of statistical inference, tensor learning and non-convex optimization.

Gemma Moran, Assistant Professor of Statistics, SAS; Ph.D., Pennsylvania.
Flexible Bayesian models for analyzing high-dimensional data.

Nicole Pashley, Assistant Professor of Statistics, SAS; Ph.D., Harvard.
Causal inference, experimental design and analysis using randomization-based framework.

Harold B. Sackrowitz, Distinguished Professor of Statistics, SAS; Ph.D., Columbia.
Inference and decision theory; multiple endpoint procedures, acceptance sampling; order-restricted inference.

Anand Sarwate, Associate Professor of Electrical and Computer Engineering, SOE; Ph.D., California (Berkeley).
Distributed optimization and signal processing, machine learning and statistics, information theory, and privacy-preserving data analysis.

Glenn Shafer, University Professor and Board of Governors Professor; Ph.D. Princeton.
Game-theoretic statistics and history of probability and statistics.

Michael Stein, Distinguished Professor of Statistics, SAS; Ph.D., Stanford.
Spatial and spatial-temporal statistics, extremes, environmental statistics, statistical climatology.

Zhiqiang Tan, Distinguished Professor of Statistics, SAS; Ph.D., Chicago.
Nonparametric and semiparametric statistics; applications in causal inference; survey sampling; Monte Carlo integration.

David E. Tyler, Distinguished Professor of Statistics, SAS; Ph.D., Princeton.
Multivariate analysis; robust statistics; directional data; psychometrics; computer vision and time series; functional data analysis.

Guanyang Wang, Assistant Professor of Statistics, SAS; Ph.D., Stanford.
Markov chain Monte Carlo, Machine Learning, Probability, Quantum Computing.

Sijian Wang, Professor of Statistics, SAS; Ph.D., Michigan.
Big-data analytics, statistical learning, proteomics, cancer genomics, precision medicine, bioinformatics, high-performance statistical computing, survival data analysis, longitudinal data analysis and statistical modeling.

Han Xiao, Professor of Statistics, SAS; Ph.D., Chicago.
Nonlinear and nonstationary time series; high dimensional analysis, algebraic statistics; random matrix theory.

Minge Xie, Distinguished Professor of Statistics, SAS; Ph.D., Illinois.
Statistical inference; latent models; longitudinal data analysis and estimating equations; robust statistics; biostatistics, foundation of data science, statistical model, asymptotics, and interdisciplinary research.

Min Xu, Associate Professor of Statistics, SAS; Ph.D., Carnegie Mellon.
Network analysis, nonparametric estimation, and high-dimensional statistics.

Cun-Hui Zhang, Distinguished Professor of Statistics, SAS; Ph.D., Columbia.
Empirical Bayes; high-dimensional data; functional MRI, network data, semiparametric and nonparametric methods, survival analysis and incomplete data; statistical inference; probability theory.

Linjun Zhang, Associate Professor of Statistics, SAS; Ph.D.
Machine Learning, Deep Learning, High-Dimensional Statistics, Ethical Data Analysis (Data Privacy and Algorithmic Fairness)

Peng Zhang, Assistant Professor of Computer Science, SAS, Ph.D., Georgia Institute of Technology.
Theoretical computer science, which studies computer science by using mathematical tools.

Statistics - Data Science 954 (SGS-DS)

Degree Requirements

Program Description

The Department of Statistics is pleased to offer a professional Master of Science program in Data Science (MSDS) in New Brunswick. The MSDS program, officially launched in Fall 2016, is offered by the Department of Statistics in close collaboration with the Department of Computer Science. Interested students are encouraged to submit applications online.

Requirements

Students need to complete 30 course credits to graduate. Among the 10 courses, eight are required courses and two are electives. At most two courses are allowed to have grade "C" or “C+”. Courses with grade below “C” cannot be used to fulfill MSDS degree requirements. The Cumulative GPA must meet SGS minimum policy of 3.0. In addition to coursework the degree requirements include completion of a master’s research project. Although the master’s research project can be based on a course project completed by the student, it must contain enhancements or extensions agreed with a faculty member who is the Project Supervisor.

The curriculum includes:

I. Data Science Foundation (9)
    A. Probability and Statistical Inference for Data Science (3) 16:954:581
    B. Regression and Time Series Analysis for Data Science (3) 16:954:596
    C. Data Wrangling and Husbandry (3) 16:954:597
II. Computer Science Foundation (6)
    A. Introduction to Data Structures and Algorithms (3) 16:198:512 (CS)
    B. Database Management for Advanced Science Applications (3) 16:954:694

III. Required Analytics and Learning (9)
    A. Statistical Models and Computing (3) 16:954:567
    B. Financial Data Mining (3) 16:958:588 (FSRM)
    C. Statistical Learning for Data Science (3) 16:954:534
IV. Basic Electives (choose two)
V. Practical Training
    A. Practical Training in Statistics for Data Science (0) 16:954:690

Statistics - Data Science 954 (SGS-DS)

Course Descriptions

Course Descriptions

16:954:534 ***Statistical Learning for Data Science (3)***
Advanced statistical learning methods are essential for applications in data science. The course covers optimization, supervised and unsupervised learning, trees and random forest, deep learning, graphical models, and others.

16:954:567 ***Statistical Models and Computing (3)***
This course is about advanced statistical models and computing methods essential for applications in data science. The topics include advanced topics in linear regression, causal inference, logistic regression, discrete choice models, generalized linear models, mixed-effects models, bootstrap, EM-algorithm, Bayesian analysis and MCMC method.

16:954:577 ***Advanced Analytics Using Statistical Software (3)***
Modeling and analysis of data, usually very large datasets, for decision making. Review and comparison of software packages used for Analytics Modeling. Multiple and logistic regression, multi-stage models, decision trees, network models, and clustering algorithms. Investigate data sets, identify and fit appropriate data analytics models, interpret statistical models in context, distinguish between data analytics problems involving forecasting and classification, and assess analytics models for usefulness, predictive value, and financial gain.

16:954:581 ***Probability and Statistical Inference for Data Science (3)***
The study of probabilistic and inferential tools is important for applications in data science. Topics covered: Probability distributions; decision theory, Bayesian inference, classification, prediction; law of large numbers, central limit theorem; point and interval estimation; multiple testing, false-discovery rates.

16:954:596 ***Regression and Time Series Analysis for Data Science (3)***
This course introduces regression methods, state-space modeling, linear time series models, and volatility models, which are important tools for data analysis, and are foundations for developing more specialized methods.

16:954:597 ***Data Wrangling and Husbandry (3)***
This course provides an introduction to the principles and tools to retrieve, “tidy,” clean, and visualize data in preparation for statistical analysis. Principles of reproducibility and reusability are emphasized. It teaches techniques to wrangle and explore data. The emphasis is on the preparation of data to ease the analysis rather than sophisticated analyses. Topics include methods to convert data from diverse sources into a suitable form for

data visualization and analysis; methods to scrape data from websites; data visualization; elementary database operations such as SQL's join; construction of web-based analysis apps; and principles of reproducibility and reusability, including literate programming, unit tests, and source code management.

16:954:683 ***Independent Studies in the Application of Data Science (3)***
Independent Study in Data Science that is based on project(s) coordinated with the department of statistics, and the submission of written reports related to these projects.
Prerequisite: Available exclusively to students in the MSDS program and requires departmental pre-approval.

16:954:690 ***Practical Training in Statistics for Data Science (0)***
Practical training in data science through internship positions or a regular position with an off-campus employer, research under a faculty member, or participation in the MSDS seminar series.
Prerequisite: Available exclusively to students in the MSDS program

16:954:694 ***Special Topics in Data Science (3)***

16:954:695 ***Special Topics in Data Science I (3)***

16:954:696 ***Special Topics in Data Science II (3)***

Statistics - Data Science 954 (SGS-DS)

Program Overview

Program Overview

Program Overview: M.S. in Data Science

Why:

- Have a future career as a professional data scientist
- Market: As modern information technologies relentlessly generate voluminous and complex data, analytical tools with solid foundation in statistical theory and methodology have become indispensable to industry and society in general. This trend has created a strong surge in the demand of professional data scientists.
- The main objectives of data scientists are properly collect useful data, processing and maintaining data, and most importantly analyzing data for informed decision making, market exploration, better customer satisfaction, and profit generation.

How:

- Receive solid training in a broad range of topics, including probability, statistical methods, computational methods, data mining, machine learning and related subjects.
- Have a deep understanding of the nature of uncertainty, modeling, performance checking and decision making.
- Develop strong statistical and computational skills for data analysis.
- Develop strong communication and leadership skills which are essential to a successful career as a data scientist.

- Ten courses, complete in 3 semesters (full time).
- Possible internship in the summer

Who:

- Students with a B.S. in mathematics, statistics, engineering, computer science, or related fields.

Where:

- Department of Statistics, Rutgers University.
- Experienced faculty members and wonderful teachers
- Exclusive and specially designed courses, projects, guest lectures, field trips etc.
- Excellent connections to industry
- Enhanced learning facilities, dedicated associate director of administration

Statistics - Data Science 954 (SGS-DS)

Time for Review and Assessment

Time for Review and Assessment

The Data Science (MSDS) program maintains a culture of mutual respect between students and faculty members and excellent communication among them. In particular, students will have sufficient time for faculty members to review and assess their work and faculty members will be as prompt as circumstances allow in responding to their students with such assessments.

The MSDS program does not require students to complete a Master Thesis to graduate. Instead, it requires a comprehensive project report which may be an extension of one or two course projects that the student has done during the study. The students are required to submit the project report to either the instructor of the course for which the project report is based on, or to the Program Director or Deputy Director, four weeks before the deadline for the Master of Science graduation candidacy forms to be completed and submitted. The instructor or the Program Directors will review the project report and approve or provide feedback to the students within two weeks, so adequate time is available to the students to improve and finalize the report.

The timeline of the graduate requirement and project report due day will be distributed to students, announced on the program's internal website, and a reminder will be sent to the graduating students two weeks before the project report due date.

Statistics - Financial Statistics and Risk Management 958 (SGS-FSRM)

STATISTICS - FINANCIAL STATISTICS AND RISK MANAGEMENT 958

Degree Programs Offered: M.S.

Co-Graduate Director: Professor Cun-Hui Zhang, 580 Hill Center for the Mathematical Sciences, Busch Campus; (848-445-7685); czhang@stat.rutgers.edu

Co-Graduate Director: Professor Sijian Wang, 490 Hill Center for the Mathematical Sciences, Busch Campus; (848-445-7622); sijian.wang@stat.rutgers.edu

Please visit the Financial Statistics and Risk Management website.

Courses are taught by a faculty of experts in the mathematics of uncertainty and in statistical modeling and data analysis. Industry practitioners also contribute to instruction and training through workshops and seminars. Students benefit from a dynamic learning environment featuring internships, projects, and case study assignments using real financial data, as well as attendance at practitioner seminars, industry events, career development workshops, and mentorship opportunities. By bringing together a world-class faculty, Advisory Board, and university located close to New York City, the FSRM program prepares students for a wide range of careers in the financial industry.

Traditional quantitative finance programs focus primarily on mathematical modeling for developing and pricing complex derivative products. Although fundamental financial engineering concepts, such as no-arbitrage pricing, risk-neutral valuation, and stochastic calculus, are a component of the FSRM Program, we are unique in emphasizing statistical tools and data analytics for measuring, monitoring, managing and mitigating uncertainty, risk and volatility. Students engage in-depth study of important topics such as advanced applied parametric and nonparametric statistical methods in finance; advanced time series analysis applied to financial and economic data and forecasting; multivariable regression analysis, data mining, data visualization, and predictive analytics; algorithmic trading and portfolio management, statistical modeling of default probabilities, losses driven default and exposure at default; scenario analysis and stress testing; event-driven loss distributions for operational risk management and many other statistically driven topics applied to financial data and risk management

Our commitment is to ensure that students are equipped to solve the complex problems financial institutions face today. We recognize that the standard assumptions or "stylized facts" of finance do not always apply in real world situations. Students are taught to statistically examine and analyze data for deviations from expected behavior and to use robust methods to mitigate and manage their impact.

Members of the Graduate Faculty

Warheed U. Bajwa, Professor of Electrical and Computer Engineering, SOE; Ph.D., Wisconsin (Madison).
Machine learning; high-dimensional statistics; statistical signal processing; networked systems; applications in biological, medical, and physical sciences.

Pierre Bellec, Associate Professor of Statistics, SAS; Ph.D., ENSAE ParisTech. 2012: Part III (MASt), Cambridge. 2011: Dipl. d'Ingénieur, Ecole Polytechnique.
High dimensional statistics, aggregation of estimators, shape constrained problems in statistics, probability theory.

Matteo Bonvini, Assistant Professor of Statistics, SAS; Ph.D., Carnegie Mellon.
Causal inference; nonparametric methods; semiparametric efficiency theory.

Steve Buyske, Professor of Statistics, SAS; Ph.D., Brown; Rutgers.
Statistical genetics; biostatistics; psychometrics; experimental design.

Javier F. Cabrera, Professor of Statistics, SAS; Ph.D., Princeton.
Biostatistics, Data mining methodology for clinical trial data, Functional Genomics data, DNA and Protein array data, and DNA Barcode data. Statistical computing, graphics, and machine vision.

Rong Chen, Chair and Distinguished Professor of Statistics, SAS; Ph.D., Carnegie Mellon.
Nonlinear and multivariate time series analysis; Monte Carlo methods, statistical computing, and Bayesian analysis; statistical applications in economics and business; statistical applications in bioinformatics.

Yaqing Chen, Assistant Professor of Statistics, SAS; Ph.D. California (Davis).
Random objects taking values in a metric space; distributional data; manifold data; statistical applications in longitudinal studies, biological and medical sciences, and social sciences.

Harry Crane, Professor of Statistics, SAS; Ph.D., Chicago.
Probability theory and stochastic processes; clustering and other applications in genetics, network analysis, and homeland security; combinatorics and discrete mathematics.

Tirthankar Dasgupta, Professor of Statistics, SAS; Ph.D., Georgia Institute of Technology.
Experimental design, causal inference, sequential exploration of complex surfaces, statistical applications in nanoscience and nanotechnology, statistical methodology in geometric shape error modeling and control, quality engineering and statistical process control.

Ruobin Gong, Associate Professor of Statistics, SAS: Ph.D., Harvard.
Theoretical foundations of uncertainty reasoning, Bayesian and generalized Bayesian methodology, random sets, imprecise probability, and Dempster-Shafer theory of belief function. Statistical inference computation with differentially private data, and ethical implications of modern data science.

Derek Gordon, Associate Professor of Genetics, SAS; Ph.D., Stony Brook.
Genetic linkage and association methods, Patient Derived Xenograft drug screening methods.

Mert Gürbüzbalaban, Associate Professor in Department of Management Science and Information Systems, RBS; Ph.D., New York University.
Monte Carlo methods, high-dimensional statistics, optimization, machine learning, data science.

Qiyang Han, Associate Professor of Statistics, SAS; Ph.D., Washington.
Mathematical statistics and high dimensional probability, abstract empirical process theory, and its applications to nonparametric function estimation (with a special focus on shape-restricted problems), Bayes nonparametrics, and high dimensional statistics.

Donald R. Hoover, Professor of Statistics, SAS; Ph.D., Stanford.
Longitudinal methods; observational studies; clinical trials; health care utilization, Epidemiology, group randomization and multiple comparisons.

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Causal Inference, Missing Data, Bayesian data analysis, Machine Learning.

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Ying Hung, Professor of Statistics, SAS; Ph.D., Georgia Institute of Technology.
Computer Experiments; design of experiments.

Koulik Khamaru, Assistant Professor of Statistics, SAS; Ph.D., California (Berkeley)
Theory and application of statistics, machine learning and optimization.

John E. Kolassa, Distinguished Professor of Statistics, SAS; Ph.D., Chicago.
Asymptotics; biostatistics; applications of statistics in nursing and criminal justice.

Robert Kopp, Distinguished Professor of Earth and Planetary Science, SAS; Ph.D., California Institute of Technology.
Understanding uncertainty in past and future climate change, with major emphases on sea-level change, the interactions between physical climate change and the economy, and the use of climate risk information to inform decision-making.

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Data depth, fusion learning, confidence distribution, resampling, nonparametric and robust statistics, aviation risk analysis.

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Distribution-free inference, robust statistics, algorithmic stability, computational complexity of statistical inference, tensor learning and non-convex optimization.

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Flexible Bayesian models for analyzing high-dimensional data.

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Causal inference, experimental design and analysis using randomization-based framework.

Harold B. Sackrowitz, Distinguished Professor of Statistics, SAS; Ph.D., Columbia.
Inference and decision theory; multiple endpoint procedures, acceptance sampling; order-restricted inference.

Anand Sarwate, Associate Professor of Electrical and Computer Engineering, SOE; Ph.D., California (Berkeley).
Distributed optimization and signal processing, machine learning and statistics, information theory, and privacy-preserving data analysis.

Glenn Shafer, University Professor and Board of Governors Professor; Ph.D. Princeton.
Game-theoretic statistics and history of probability and statistics.

Michael Stein, Distinguished Professor of Statistics, SAS; Ph.D., Stanford.
Spatial and spatial-temporal statistics, extremes, environmental statistics, statistical climatology.

Zhiqiang Tan, Distinguished Professor of Statistics, SAS; Ph.D., Chicago.
Nonparametric and semiparametric statistics; applications in causal inference; survey sampling; Monte Carlo integration.

David E. Tyler, Distinguished Professor of Statistics, SAS; Ph.D., Princeton.
Multivariate analysis; robust statistics; directional data; psychometrics; computer vision and time series; functional data analysis.

Guanyang Wang, Assistant Professor of Statistics, SAS; Ph.D., Stanford.
Markov chain Monte Carlo, Machine Learning, Probability, Quantum Computing.

Sijian Wang, Professor of Statistics, SAS; Ph.D., Michigan.
Big-data analytics, statistical learning, proteomics, cancer genomics, precision medicine, bioinformatics, high-performance statistical computing, survival data analysis, longitudinal data analysis and statistical modeling.

Han Xiao, Professor of Statistics, SAS; Ph.D., Chicago.
Nonlinear and nonstationary time series; high dimensional analysis, algebraic statistics; random matrix theory.

Minge Xie, Distinguished Professor of Statistics, SAS; Ph.D., Illinois.
Statistical inference; latent models; longitudinal data analysis and estimating equations; robust statistics; biostatistics, foundation of data science, statistical model, asymptotics, and interdisciplinary research

Min Xu, Associate Professor of Statistics, SAS; Ph.D., Carnegie Mellon.
Network analysis, nonparametric estimation, and high-dimensional statistics.

Cun-Hui Zhang, Distinguished Professor of Statistics, SAS; Ph.D., Columbia.
Empirical Bayes; high-dimensional data; functional MRI, network data, semiparametric and nonparametric methods, survival analysis and incomplete data; statistical inference; probability theory.

Linjun Zhang, Associate Professor of Statistics, SAS; Ph.D.
Machine Learning, Deep Learning, High-Dimensional Statistics, Ethical Data Analysis (Data Privacy and Algorithmic Fairness).

Peng Zhang, Assistant Professor of Computer Science, SAS, Ph.D., Georgia Institute of Technology.
Theoretical computer science, which studies computer science by using mathematical tools.

Statistics - Financial Statistics and Risk Management 958 (SGS-FSRM)

Degree Requirements

Degree Requirements

The graduate program in statistics offers a Master of Science (M.S.) concentration in financial statistics and risk management (FSRM). This program is designed to meet the growing demand for financial statistics and risk management professionals.

Financial statistics is one of the emerging frontiers of statistics. As modern information technologies relentlessly generate voluminous and complex financial data, statistical theory and methodology have become indispensable to the financial industry. Statistical approaches based on empirical data have imposed themselves as a new generation of tools for arbitrage opportunities, performance predictions, risk exposure evaluation and management, portfolio management, asset evaluations, and the devising of novel financial products.

Risk management is an increasingly important subject in financial, industrial and regulatory sectors, in light of the global economy and the proliferation of innovative and complex risk management products. A successful risk management system incorporates expert knowledge from statistics, mathematics, finance, actuarial science, and computer science. Due to the interdisciplinary nature of the subject, it requires a special approach toward the training of the next generation of experts and leaders.

The FSRM program is designed to provide its graduates with a deep understanding of the nature of uncertainty, financial risks, and statistical properties of financial markets; a broad knowledge of established regulatory guidelines in risk management; strong technical skills for asset and portfolio analysis, risk evaluation, and management; and necessary communication and leadership skills for a successful career in financial statistics and risk management.

Students are encouraged to seek summer internships in the financial industry. A report on a suitable summer internship project can serve as the basis for the master's degree essay.

Students may pursue the degree full time or part time. Full-time students can complete the degree in three semesters and part-time students must complete their degree within five years.

It also is possible to apply for admission to FSRM as a nondegree student. As many as 12 credits of coursework taken as a nondegree student can count toward the degree if the student is subsequently admitted to the degree program.

Requirements

The requirements for the master's degree in the FSRM program include completing 10 courses for a total of 30 course credits and an approved master's degree essay. Among the 10 courses, eight are required courses and two are electives. Students may choose one of two tracks in the program: financial statistics or financial risk management. There is significant overlap in courses required for the two tracks. All students are required to take 16:958:690 Practical Training in all semesters while in the program.

The minimum cumulative grade-point average required for graduation is 3.0 (B) for all courses taken at Rutgers after admission to the FSRM program. M.S. candidates must ordinarily have at least 30 semester-hours of approved graduate course credits of which no more than two courses may have grade “C" or “C+”. Courses with grade below “C” cannot be used to fulfill FSRM degree requirements. The M.S. degree requires the submission of a paper on some topic in FSRM. Ordinarily, this will be satisfied by the submission of an acceptable paper done as a course project. No additional examination is required.

Read more at the program website.

Required Courses for Financial Statistics Track:

FSRM 16:954:581 Methods and Theory of Probability and Statistical Inference with Financial Applications

FSRM 16:958:563 Regression Analysis in Finance

FSRM 16:958:565 Financial Time Series Analysis

FSRM 16:958:590 Foundation of Financial Statistics and Risk Management

FSRM 16:958:535 Advanced Statistical Methods in Finance

FSRM 16:958:587 Advanced Simulation Methods for Finance

FSRM 16:958:588 Financial Data Mining

FSRM 16:958:591 Algorithm Trading and Portfolio Management

FSRM 16:958:690 Practical Training in the Application of Financial Statistics and Risk Management

Required Courses for Financial Risk Management Track:

FSRM 16:954:581 Methods and Theory of Probability and Statistical Inference with Financial Applications

FSRM 16:958:563 Regression Analysis in Finance

FSRM 16:958:565 Financial Time Series Analysis

FSRM 16:958:590 Foundation of Financial Statistics and Risk Management

FSRM 16:958:535 Advanced Statistical Methods in Finance

FSRM 16:958:587 Advanced Simulation Methods for Finance

FSRM 16:958:534 Advanced Methods for Risk Management Practice

FSRM 16:958:536 Financial Risk Evaluation and Management

FSRM 16:958:690 Practical Training in the Application of Financial Statistics and Risk Management

Two Elective Courses

Statistics - Financial Statistics and Risk Management 958 (SGS-FSRM)

Course Descriptions

Course Descriptions

16:958:534 ***Advanced Methods for Risk Management Practice (3)***
Market risk measurement and management, value at risk (VaR) and other risk measures, parametric and non-parametric methods of estimation, VaR mapping, backtesting VaR, expected shortfall, extreme value theory, correlations and copulas, regression hedging, principal components analysis applied to hedging portfolios, interest rate risks, volatility smiles and term structures, credit risk measurement and management, quantitative methods in default risk, Merton model, credit scoring models, linear discriminant analysis, parametric discrimination, K nearest neighbor, support vector machines, credit derivatives, counterparty risk, structured credit risk, collateral management, credit VaR, structured finance and securitization, operational risk, enterprise risk management, modeling operational loss distributions, liquidity risk, risk appetite frameworks, risk-adjusted return on capital, economic capital frameworks and capital allocation, stress testing banks, performance of risk management systems, regulation and the Basel Accords, Frank Dodd, Anti-Money Laundering, Know-Your-Customer.
Prerequisite: 16:958:590

16:958:535 ***Advanced Statistical Methods in Finance (3)***
Conditional expectation and martingales, return and yield curve, discounted cash flow models, parametric and nonparametric methods, advanced distribution theory, portfolio theory, derivatives, risk neutral measure and complete market in discrete models, forward-futures spread, Brownian motion and stochastic calculus, Girsanov's theorem, the Black-Scholes-Merton model, Greeks, implied volatility, financial risks, value at risk, back test and stress test, estimation of volatilities and correlations, multifactor pricing models, credit risk, estimation of default

rate, copulas, interest rate derivatives, short rate models, high frequency data, and market micro-structure. Applications of advanced regression analysis, statistical inference and hypothesis testing procedures, principal component analysis, canonical correlation and factor models, nonparametric regression and smoothing, robust variance-covariance estimation, decision theory, Bayesian method, model selection and robustness.
Prerequisite: 16:958:563, 16:958:590.

16:958:536 ***Financial Risk Evaluation and Management (3)***
The concept of uncertainty and risk, measurement of risk, principle of return and risk trade-off, introduction to insurance, and various insurance instruments in business and finance. Classical and stochastic risk models, ruin theory, claims modeling and evaluations, risk premium pricing, and loss distributions. Value-at-risk framework and related statistical issues. Shortfall risk and related statistical issues. Extreme value theory and risk management. Statistical methods for pricing of futures and options, including diffusion models, ARCH/GARCH models, statistical tools for model estimations, hedging strategies, risk-neutral evaluation, arbitrage strategies, the Greeks, and risk premiums. Statistical methods for measuring, pricing, and management of interest rate and currency risk. Statistical methods for measuring, pricing, and management of credit risk. Introduction to monetary regulations for banks and financial institutions.
Prerequisite: 16:958:565, 16:958:590.

16:958:563 ***Regression Analysis in Finance (3)***
Review of basic statistical theory and matrix algebra; general regression models, implementing regression techniques with computer applications, residual analysis, selection of regression models, response surface methodology, nonlinear regression models, experimental design models, and analysis of covariance. Emphasis on the use of regression methods in finance and risk management.
Prerequisite: Level IV statistics.

16:958:565 ***Financial Time Series Analysis (3)***
Model-based forecasting methods, autoregressive and moving average models, ARIMA, ARMAX, ARCH, state-space models, estimation, forecasting and model validation, missing data, irregularly spaced time series, parametric and nonparametric bootstrap methods for time series, multiresolution analysis of spatial and time series signals, and time-varying models and wavelets. Emphasis on financial applications of time series methods.
Prerequisite: 16:958:563 or permission of instructor.

16:958:587 ***Advanced Simulation Methods for Finance (3)***
Modern simulation methods and advanced statistical computing techniques for financial applications. Introduction to Monte Carlo simulation methods, variance reduction technique, the bootstrap methods, Markov chain Monte Carlo methods, sequential Monte Carlo method, hidden Markov models, Bayesian methods, etc. Expect to use C++ and R for programming and data analysis. Emphasis on examples and applications from finance and risk management.
Prerequisites: 16:958:563, and 16:198:443 or permission of instructor.

16:958:588 ***Financial Data Mining (3)***
Databases and data warehousing, exploratory data analysis and visualization, an overview of data mining algorithms, modeling for data mining, descriptive modeling, predictive modeling, pattern and rule discovery, text mining, Bayesian data mining, observational studies. Emphasis on the use of data mining techniques in finance and risk management.
Prerequisites: 16:958:563, and 16:198:443 or permission of instructor.

16:958:589 ***Programming for Financial Statistics and Risk Management (3)***
Computers and Java fundamentals, concepts and syntax of Java programming, object-oriented programming concepts, encapsulation, inheritance and polymorphism, modifiers, interfaces, exceptions, GUI's, recursion, binary trees, I/O stream, input and output in Java, programming financial statistics and risk management applications, core Java classes for financial computation, accuracy for Iterative techniques, implementation of risk management algorithms and techniques.

16:958:590 ***Foundations of Financial Statistics and Risk Management (3)***
Simple stochastic, statistical, and computational models for portfolio optimization and hedging, financial risk management and statistically based trading strategies and arbitrage. Topics include financial markets and products, the binomial model and Black Scholes, modern portfolio theory and mean variance optimization, interest rate risk, fixed Income securities, derivatives and credit risk management, hedging and volatility, value at risk, structured credit, correlations and copulas, financial risk events, bank regulation, economic capital, integrated risk management, country and sovereign risk.

16:958:591 ***Algorithm Trading and Portfolio Management (3)***
Utility theory, the capital asset pricing model, mean-variance optimization, Ross' arbitrage pricing theory, covariance matrix estimation, principal component analysis and factor models, multi-factor models, volatility forecasting, risk measures, value at risk and credit value at risk, portfolio optimization, the Moore-Penrose pseudoinverse, Black-Litterman optimization and applications to asset allocation problems, risk parity portfolios, portfolio optimization with transaction costs, microstructure theory, convex optimization with constraints, execution algorithms, simulation strategies and back-testing, look-ahead bias and overfitting, robustness, state space models, linear time series models, volatility models, design and implementation of algorithm trading.
Prerequisites: 16:958:590, 16:958:563

16:958:599 ***Special Topics in Financial Statistics and Risk Management (3)***

16:958:690 ***Practical Training in the Application of Financial Statistics and Risk Management (0)***
Practical training in financial statistics and risk management through internship positions or a regular position with an off-campus employer, research under a faculty member, or participation in the FSRM seminar series.

16:958:693 ***Special Topics in Statistics (1)***
Modern statistics and interdisciplinary topics not regularly covered in the graduate program.
Prerequisite: Permission of program director.

16:958:694,695 ***Special Topics in Financial Statistics and Risk Management (3,3)***

TOXICOLOGY 963

Degree Programs Offered: M.S., Ph.D.

Please visit the Toxicology website.

Program Description

The Joint Graduate Program in Toxicology (JGPT) curriculum provides broad research training in biochemical, organ system, and mechanistic toxicology with a strong foundation in drug metabolism, pathology, and molecular biology. The Program is administered by the Department of Pharmacology and Toxicology, but draws on over 60

mentors come from over 17 different departments on campus to provide multidisciplinary training. A NIEHS T32 Training Grant (T32ES007148) has been the cornerstone of the JGPT for 40 years. All doctoral students receive financial support from training grants, teaching or research fellowships, or from local industry.

Apply

The JGPT provides trainees with career opportunities to develop their teaching, mentorship, publishing, and leadership skills and participate in community outreach. Alumni of the JGPT hold challenging and exciting positions in the pharmaceutical, chemical, and consumer product industries, government, and top research and teaching universities.

Degree Types

- M.S. (Master of Science)
- Ph.D. (Doctor of Philosophy)

Campus Locations

Busch Campus - New Brunswick College Ave Campus - New Brunswick

Cook/Douglass Campus - New Brunswick

Livingston Campus - New Brunswick

Faculty

Lauren Aleksunes, Pharm.D., Ph.D., Connecticut

Steven An, Ph.D., Brown

Tracy Anthony, Ph.D., Illinois (Urbana)

Gary Aston-Jones, Ph.D., California Institute of Technology

Emily Barrett, Ph.D., Harvard

Tamar Barkay, Ph.D., Maryland

Alison Bernstein, Ph.D., Washington

Luigi Brunetti, Pharm.D., Ph.D., Rutgers

Brian Buckley, Ph.D., North Carolina

Tricia Burdo, Ph.D., Pennsylvania

Joanna Burger, Ph.D., Minnesota

Stephen Burley, M.D., Ph.D., Oxford

Sara Campbell, Ph.D., Florida

Suzie Chen, Ph.D., Albert Einstein

Meli'sa Crawford, Ph.D., Arizona

Philip Demokritou, Ph.D., Athens

Emanuel DiCicco-Bloom, M.D., Cornell

Maria Dominguez-Bello, Ph.D., Aberdeen

Nancy Fiedler, Ph.D., Bowling Green

Marie Fortin, Ph.D., Montreal

Ellen Francis, Ph.D., Clemson

Philip Furmanski, Ph.D., Temple

Carol Gardner, Ph.D., Texas

Panagiotis Georgopoulos, Ph.D., California Institute of Technology

Michael Gochfeld, M.D.,

Michael Goedken, D.V.M. , Ph.D., Connecticut

Andrew Gow, Ph.D., Temple

Judith Graber, Ph.D., Illinois

Grace Guo, Ph.D., Kansas

Jessie Yanxiang Guo, Ph.D., Duke

Ronald Hart, Ph.D., Michigan

Wenwei Hu, Ph.D., Zhejiang

Mi-Hyeon Jang, Ph.D., Kyung Hee

Laurie Joseph, Ph.D., Ohio

Joseph Jude, Ph.D., Minnesota

Howard Kipen, M.D., California (San Francisco)

Ah-Ng Tony Kong, Ph.D., SUNY (Buffalo)

Cynthia Koziol-White, Ph.D., Wisconsin

Debra Laskin, Ph.D., Virginia

Jeffrey Laskin, Ph.D., SUNY (Buffalo)

Robert Laumbach, M.D., UMDNJ

Jose Guillermo Cedeno Laurent, M.Sc., Sc.D., Harvard

Zachery Lonergan, Ph.D., Vanderbilt

Matthew McBride, Ph.D., Harvard

Conor McClenaghan, Ph.D., Oxford

John McGann, Ph.D., Yale

Christopher Molloy, Ph.D., Rutgers

Pingyue Pan, M.D., Ph.D., Shanghai Jiao Tong

Reynold Panettieri, M.D., Pennsylvania

Lauren Poole, Ph.D., Louisville

Raymond Rancourt, Ph.D., Rochester

Zorimar Rivera-Nunez, Ph.D., Michigan

Mark Robson, Ph.D., Rutgers

Troy Roepke, Ph.D., California (Davis)

Harini Sampath, Ph.D., Wisconsin (Madison)

Dipak Sarkar, D.Phil., Oxford; Ph.D., Calcutta

Stephan Schwander, M.D., Goethe; Ph.D., Hamburg (Eppendorf)

Igor Shmarakov, Ph.D., Yuriy Fedkovych Chernivtsi

Phoebe Stapleton, Ph.D., West Virginia

Nanjoo Suh, Ph.D., Illinois (Chicago)

Jay Tischfield, Ph.D., Yale

Mehmet Uzumcu, Ph.D., Ohio

Maribel Vazquez, Sc.D. , Massachusetts Institute of Technology

Jun Wang, Ph.D., Pennsylvania

Charles Weschler, Ph.D., Chicago

Lori White, Ph.D., Dartmouth

Shuo Xiao, Ph.D., Georgia

Helmut Zarbl, Ph.D., McGill

Steven Zheng, Ph.D., Harvard

Renping Zhou, Ph.D., California (Berkeley)

Wei-Xing Zong, Ph.D., UMDNJ

Toxicology 963 (SGS-TOXICOLOGY)

Degree Requirements

First Year

The required core curriculum during the first academic year is identical for all JGPT students. When not taking classes or studying, trainees are expected to be working in the laboratory of their rotation advisor. Two or three research rotations are completed during the first academic year.

Fall Semester

- Statistics in Biomedical Sciences 3 cr
- Biochemistry 3 cr
- Principles of Toxicology 3 cr
- Seminar 1 cr

Spring Semester

- Molecular Biology & Biochemistry 3 cr
- Ethical Scientific Conduct 1 cr
- Integrated Organ Physiology 3 cr

Second Year

Students continue to progress on their research during the second year. Students enrolled in the MS program are not required to take the Molecular Toxicology course.

Fall Semester

- Systems Toxicology 3 cr
- Histology 3 cr
- Seminar 1 cr
- Toxicology Journal Club 1 cr

Spring Semester

- Molecular Toxicology 4 cr
- Toxicologic Pathology 3 cr
- Human Health Risk Assessment 1 cr

Summer

- Qualifying Exams

Third and Subsequent Years

The third and subsequent years are devoted to primarily the student's research activities. Students are required to take at least 2 electives (each elective 2 or more credits) during matriculation towards the Ph.D. degree. All students are required to participate in seminars all years in the program.

Electives

- Environmental Health
- Hormones and Their Receptors
- Advanced Technologies in Biosciences
- Team Science – Collaborations in Biomedical Sciences
- Microbiome and Health
- Reproductive and Developmental Toxicology
- Pharmacogenomics and Precision Medicine
- Neural Injury and Repair
- Poison Management
- Neuroendocrinology
- Communicating Science
- Genomics in Cancer Therapy
- Community Engagement in Environmental Health
- Drug-Target Interactions
- Principles and Methods of Epidemiology
- Principles of Drug Action and Targeting
- Current Concepts of Immunology
- Hormones and Their Receptors
- Genetics in Pharmacology
- Environmental Justice

Industrial Electives

- Drug Discovery and Development (taught by Bristol-Myers Squibb Scientists)
- Pharmaceutical Safety Assessment (taught by Novartis Scientists)
- Consumer Products Safety & Sustainability (taught by Colgate Palmolive Scientists)

Progress in the JGPT program is monitored. Doctoral students must earn a minimum of 72 credits, including a minimum of 24 research credits, prior to graduation. Students must earn a grade of B or better in all required courses. The course requirements for M.S. students are similar to those for the Ph.D. student. A minimum of 24 course credits and 6 research credits are required. While the M.S. student is not required to take the written and oral qualifying examinations, he/she is required to pass a comprehensive examination, including general knowledge of Toxicology, during the defense of his/her thesis.

Course Descriptions

Course Descriptions

First Year Curriculum:

16:115:511 ***Mol Bio & Biochem (3)***
This course is the first part of a two-semester sequence offered as the primary foundation course for students interested in pursuing modern biochemistry and molecular biology. This semester (01:694:407) provides a complete survey of Biochemistry topics, and the second semester (01:694:408) provides a thorough coverage of current ideas in Molecular Biology.

16:115:512 ***Mol Bio & Biochem (3)***
This course is the second part of a two-semester sequence offered as the primary foundation course for students interested in pursuing modern biochemistry and molecular biology. This course is intended to provide advanced instruction in topics in molecular biology.

16:963:501 ***Principles of Toxicology (3)***
This course introduces students to the fundamental principles of toxicology, including toxicodynamics, toxicokinetics, and toxicogenetics. Students will learn how chemicals interact with biological systems, how the body absorbs, distributes, metabolizes, and eliminates toxicants, and how genetic variability influences susceptibility to adverse effects. The course also emphasizes the design and interpretation of toxicology studies, including dose–response relationships, target organ toxicity, and the selection of appropriate in vitro and in vivo experimental models for preclinical safety assessment. Students will gain an understanding of how mechanistic data inform hazard identification and risk evaluation. In addition, landmark historical cases of toxic exposures are examined to illustrate how scientific discoveries have shaped modern toxicology practices, public health protections, and regulatory policies. By the end of the course, students will be able to apply core toxicological concepts to evaluate chemical safety and understand the scientific basis of regulatory decision-making.

16:115:556 ***Ethical Scientific Conduct (1)***
This course discusses the definitions and ethical problems caused by the fabrication of data, falsification of results, plagiarism, and other behaviors inconsistent with ethical scientific conduct. This course is required for all SGS Biomedical PhD students and Master's of Science in Biomedical Sciences students. The course complies with NIH guidelines for Responsible Conduct of Research (RCR) training. Students in their 5th year of graduate school must take a refresher training course (16:115:558).

16:115:557 ***Statistics in Biomedical Sciences (3)***
This is a graduate level applied statistics course designed for PhD students in the Biomedical Sciences graduate programs in New Brunswick/Piscataway to ensure *Rigor and Reproducibility* training for conducting research. IN this course, you will focus on building your foundation in statistical handling for your biomedical research, including rigorous experimental design to answer the question of interest, appropriate analysis methods, and accurate interpretation of findings. The course will cover the fundamental statistics methods in biomedical research, including estimation, hypothesis testing (parametric and non-parametric), ANOVA, and regression methods (normal, binary, and time-to-event variables).

16:963:512 ***Integrated Organ Physiology (3)***
The purpose of this course is to provide students with a foundational understanding of human anatomy, physiology, and applied biochemistry. Students will examine the structure (anatomy) and function (physiology) of major organ systems, with emphasis on cellular biology and the integration of neural, cardiovascular, respiratory, renal, hepatic, immune, endocrine, and metabolic systems. This course provides essential physiological background to support advanced study in biomedical and pharmaceutical sciences. A comprehensive paper assignment is required, allowing students to explore a physiological or biochemical topic related to toxicology in depth and strengthen their ability to synthesize and communicate scientific information.

16:963:701 ***Seminar (1)***
This seminar course provides graduate students and postdoctoral fellows with a collaborative forum to present their ongoing research, receive constructive peer and faculty feedback, and strengthen their scientific communication skills. Through regular trainee-led presentations and discussion, participants develop the ability to critically evaluate study design, data interpretation, and translational relevance. The course also exposes participants to emerging concepts and cutting-edge research across mechanistic toxicology, environmental health sciences, environmental epidemiology, and exposure science. By engaging with diverse projects presented by their peers, trainees gain broader interdisciplinary perspectives and insight into contemporary challenges in understanding how environmental factors influence human health. Students participate in this course every year while in training.

Research Rotations
First-year students complete two required research rotations, each lasting approximately 10–12 weeks. An optional third rotation may be undertaken with program approval. These rotations provide students with the opportunity to experience different laboratory environments, research cultures, and mentoring styles while gaining hands-on training in a range of analytical and experimental techniques. Through these experiences, students work closely with program leadership and faculty mentors to identify laboratories that align with their scientific interests and long-term dissertation goals.

Second Year Curriculum:

16:963:502 ***Systems Toxicology (3)***
This course is designed to teach graduate level students the basic principles of mechanistic and exposure toxicology. The knowledge will be used to apply to risk assessment of the environmental and human health effects of hazardous chemicals. The course features both lectures and case studies to introduce students to organ-based toxicology, carcinogenesis, forms of toxicants commonly exposed to, and clinical and occupational toxicology. Students will learn in depth and fundamental mechanistic knowledge of how toxicant exposure leads to adverse health outcome.

16:963:508 ***Toxicology Journal Club (1)***
This discussion-based course i serves as a companion to Systems Toxicology (16:963:502). Students are provided a scientific manuscript on a lecture topic introduced in the parent course. During weekly journal clubs, students and a faculty moderator discuss each research article. The course objective is to introduce analytical tools and methods used for investigating organ toxicity, while serving as a practice ground to critically read and evaluate scientific papers. This course builds on prior courses in biostatistics and experimental design with a focus on rigor and reproducibility. Where appropriate, tours of core facilities within Rutgers EOHSI will be used to supplement classroom discussions.

16:963:505 ***Molecular Toxicology (4)***
This course examines the biochemical and molecular mechanisms of drug metabolism, toxicology, and cellular response. Topics include cytochrome P450 function, xenobiotic metabolism, cell signaling, epigenetics, immune responses, and cancer-related pathways. Emphasis is placed on understanding how toxicants affect cellular processes and contribute to disease. This course is not required for the M.S. degree.

16:963:503 ***Histology for Toxicologic Pathology (3)***
This advanced graduate course provides an integrated understanding of how biological structure at the cellular and tissue level underlies organ function. Emphasis is placed on the relationship between histology (microscopic anatomy) and physiology, highlighting how structural organization supports normal biological processes and how alterations in structure can impair function. Students will examine the microscopic architecture of major tissues and organ systems using a systems-based approach, with attention to structure–function relationships, cellular specialization, and tissue organization. The course builds upon prior training in biochemistry and physiology and prepares students to interpret morphologic changes in the context of disease, injury, and toxicant exposure. This course serves as a foundational component for advanced study in toxicologic pathology and related biomedical disciplines by strengthening skills in microscopic interpretation, integration of structural and functional data, and application of histologic principles to mechanisms of toxicity and disease

16:963:631 ***Toxicologic Pathology (3)***
This is a 3-credit course that introduces the fundamental principles, procedures, and techniques used in the histopathologic evaluation of tissues. Emphasis is placed on understanding the pathophysiology and microscopic features of disease in both experimental animal models and humans. The course is designed to develop practical diagnostic and interpretive skills in pathology. During laboratory sessions, students work at multi-headed microscopes alongside board-certified veterinary anatomic pathologists from local pharmaceutical companies to evaluate real-world case studies. An optional opportunity to observe a human autopsy at the medical examiner's office is also available.

16:963:510 ***Human Health Risk Assessment (1)***
The human health risk assessment course is designed to provide an introduction to the theory and practice of risk assessment in toxicology. Xenobiotic exposure is ubiquitous at home, in the workplace, and in the environment. Conducting risk assessment in toxicology requires a thorough understanding of pharmacology, pharmacokinetics, of all organ systems, and of the limitations and strengths of the different models used to assess the toxicity profile of chemicals. It also requires to be able to conduct exposure assessment. Risk assessment is an integral component of risk analysis which also includes risk management, and risk communication. Participants will be responsible for learning all of the in-class material during the 2-day intensive 'bootcamp'. There will be monthly meetings during which students will work on risk assessment problems.

Elective Courses:

16:963:506 ***Pharmacogenomics and Precision Medicine (2)***
Pharmacogenetics and pharmacogenomics is the study of how an individual's genetic inheritance affects the body's response to drugs. This course will help to understand how genetic differences among the human populations may determine the susceptibility to and onset of human diseases as well as pharmacokinetic/pharmacodynamic responses to drug therapy and how personalized medicine can improve clinical outcome and public health. This course will examine factors that affect drug response, including genetics, environment, diet, age, disease conditions, concurrent drug therapies and health status. Methods and approaches important to pharmacogenomics and

precision medicine will be discussed. The overall goal of this course is to provide students an understanding of pharmacogenetics and pharmacogenomics in the context of variability in drug response and the application of pharmacogenomics and precision medicine to drug treatment and drug development/discovery.

16:963:632 ***Neural Injury and Repair (3)***
The Neural Injury and Repair Course is a graduate level course that has 5 modules: Neurobiological Substrates of Injury/ Repair and Neurodevelopmental Disorders; Mechanisms and Targets of Neural Injury; Neurodegeneration, Neural Injury and Genetics; Potential Novel Repair Mechanisms; and Neurotoxic Chemicals. It is a lecture series in which the topics are covered by Rutgers faculty with expertise in the area covered. Topics include but are not limited to developmental disturbances, mechanisms of neuronal damage/death in the adult brain, neurodegenerative diseases, genetics, stem cells, and neurotoxicants (e.g., solvents).

16:963:507 ***Poison Management (3)***
This course introduces graduate students to the clinical management of drug overdoses and toxic exposures. Students will learn the principles of gastrointestinal decontamination, enhanced elimination techniques, and other treatment strategies used in emergency care settings. Emphasis is placed on recognizing and managing drug-induced organ dysfunction, including associated signs, symptoms, and diagnostic approaches for common poisonings. The course also highlights the critical role of Poison Control Centers in the assessment and management of toxic exposures within the community.

16:963:511 ***Community Engagement in Environmental Health: (Students will be able to enroll in this elective course for up to 4 credits per semester and for more than one semester)***
The purpose of this independent study elective course is for students to gain knowledge and skills in engaging with community stakeholders by developing and performing community-engaged experiential projects. The course will include individualized one-on-one meetings with faculty members to discuss approaches to community engagement and completion of a community service-learning practicum. Projects will aim to identify, examine, and act to address community environmental health concerns. Opportunities for students to interact with community partners will be facilitated through the Environmental and Occupational Health Sciences Institute and/or Community Engagement Core (CoEC) of the NIEHS P30 Center for Environmental Exposures and Disease. Current community partners include GreenFaith, Coalition for Health Ports, Jersey Coast Anglers Association, Ironbound Community Corporation, Isles Corp, Housing and Community Development Network of New Jersey, and Clean Water Action New Jersey. Example projects are described below.

16:963:509 ***Drug Discovery and Development (1)***
This elective course introduces students to the end-to-end drug discovery and development process from an industry perspective, spanning target identification and validation, lead optimization, and the preclinical studies required to evaluate safety and advance candidates toward clinical testing. Emphasis is placed on the collaborative, cross-functional nature of pharmaceutical research and development. The course is taught by scientists from the pharmaceutical industry who bring real-world experience across multiple stages of drug development. Through industry-based case studies and discussion, students will gain practical insight into decision-making, regulatory considerations, and the challenges of translating scientific discoveries into safe and effective therapies.

16:963:513 ***Pharmaceutical Safety Assessment (2)***
This two-credit course is designed for students who have completed at least their first year of graduate course work in the JGPT as well as the Introduction to Drug Development course (Advanced Topics in Toxicology) taught by scientists from area pharmaceutical companies. In this course, students explore the drug development process

through a series of advanced case studies focused on different aspects (e.g. clinical dose selection, metabolite toxicity, pediatric drug development, carcinogenicity, imaging, immunotoxicology) of preclinical safety assessment and challenges faced during the clinical phases of developing a new drug. Case studies will include traditional low molecular weight and biotherapeutic compounds.

16:963:634 ***Consumer Products Safety & Sustainability (2)***
This elective course is designed to prepare graduate students for careers in the consumer products industry. All instructors are scientists and professionals from a local personal care and oral care company, providing students with direct insight into industry practices, product development, safety evaluation, and environmental sustainability considerations for consumer products. Students are expected to actively participate in classroom activities and discussions, complete assigned readings and case studies, and demonstrate mastery of the material through a midterm and final exam. Course content emphasizes real-world applications, including product stewardship and sustainable formulation strategies, as well as the interdisciplinary skills required for successful careers in consumer product research, development, and safety assessment.

Toxicology 963 (SGS-TOXICOLOGY)

Admission Deadlines

Admission Deadlines

December 1st.

Women's, Gender, and Sexuality Studies 988 (SGS-WGSS)

WOMEN'S, GENDER, AND SEXUALITY STUDIES 988

Degree Programs Offered: M.A., Ph.D.

Please visit the Women's, Gender, and Sexuality Studies website.

Program Description

As interdisciplinary undertakings that cross the humanities and the social sciences, the graduate programs in Women's, Gender, and Sexuality Studies prepare students to engage with and to create new forms of feminist knowledge and practice. The WGSS faculty and students combine theoretical and activist-oriented work that foregrounds social justice, especially with respect to gender, race, sexuality, and decoloniality. As emerging scholars, intellectuals, and activists enrolled at a Research 1 state university with a long commitment to feminist practices, our students benefit from the rich resources of the larger feminist community at Rutgers. This includes 35 Ph.D. students, 25 M.A. students, and over 60 Ph.D. students in other departments who are pursuing certificates in Women's, Gender, and Sexuality Studies. In addition, the many Rutgers institutes and centers devoted to feminist research — the Institute for Women's Leadership, the Center for American Women and Politics, the Center for Women's Global Leadership, the Center for Women and Work and the Institute for Research on Women, among others — enrich the opportunities for our students to gain practical skills and to broaden their knowledge of feminist research and politics.

Rutgers University

To view details for IWL Consortium Click here

Degree Types

- M.A. (Master of Arts)
- B.A./M.A.
- Ph.D. (Doctor of Philosophy)

Campus Locations

Cook/Douglass Campus - New Brunswick

Faculty

Leslie Alexander, Ph.D., Cornell

Nikol Alexander-Floyd, Ph.D., Rutgers

Ousseina Alidou, Ph.D., Indiana

Evelyn Autry, Ph.D., Georgia

Yesenia Barragan, Ph.D., Columbia

Emily Bartels, Ph.D., Harvard

Frances Bartkowski, Ph.D., Iowa

Akissi Britton, Ph.D., CUNY

Ethel Brooks, Ph.D., New York

Sylvia Chan-Malik, Ph.D., California (Berkeley)

Mary Chayko, Ph.D., Rutgers

Dorothy Cobble, Ph.D., Stanford

Ed Cohen, Ph.D., Stanford

Ann Baynes Coiro, Ph.D., Maryland

Barbara Cooper, Ph.D., Boston

Brittney Cooper, Ph.D., Emory

Jeanette Covington, Ph.D., Chicago

Jocelyn Crowley, Ph.D., Massachusetts Institute of Technology

Belinda Davis, Ph.D., Michigan (Ann Arbor)

Carlos Decena, Ph.D., New York University

Leah DeVun, Ph.D., Columbia

Zaire Dinzey-Flores, Ph.D., Michigan

Melissa Feinberg, Ph.D., Chicago

Leslie Fishbein, Ph.D., Harvard

Sandy Flitterman-Lewis, Ph.D., California (Berkeley)

Jeff Friedman, Ph.D., UC, Riverside

Marisa Fuentes, Ph.D., California (Berkeley)

Elena Gambino, Ph.D., Minnesota

Martha Helfer, Ph.D., Stanford

Alison Howell, Ph.D., York

Chie Ikeya, Ph.D., Cornell

Allan Punzalan Isaac, Ph.D., New York

Jennifer Jones, Ph.D., Princeton

Jyl Josephson, Ph.D., Maryland

Joanna Kempner, Ph.D., Pennsylvania

Stacy Klein, Ph.D., Ohio

Barbara Lee, Ph.D., Ohio; J.D., Georgetown

Catherine Lee, Ph.D. California (Los Angeles)

Dana Luciano, Ph.D., Cornell

Ishani Maitra

Mukti Mangharam, Ph.D., Cornell

Preetha Mani, Ph.D., California (Berkeley)

Pamela McElwee, Ph.D., Yale

Meredith McGill, Ph.D., Johns Hopkins

Sarah McMahon-Cannizzo, Ph.D., Rutgers

Maya Mikdaski, Ph.D., Columbia

Danielle Phillips-Cunningham, Ph.D., Rutgers

Priscilla Pinto Ferreira, Ph.D., North Carolina (Chapel Hill)

Julie Rajan, Ph.D., Rutgers

Nancy Rao, Ph.D., Michigan

Maura Reilly, Ph.D., New York University

J.T. Roane, B.A., Virginia; Ph.D., Columbia

Yana Rodgers, Ph.D., Harvard

Zakia Salime, Ph.D., Illinois

Diana Sanchez, Ph.D., Michigan

Paul Schalow, Ph.D., Harvard

Johanna Schoen, Ph.D., North Carolina

Kyla Schuller, Ph.D., California (San Diego)

Richard Serrano, Ph.D., California (Berkeley)

Susan Sidlauskas, Ph.D., Pennsylvania

Ben Sifuentes-Jauregui, Ph.D., Yale

Arlene Stein, Ph.D., California (Berkeley)

Michelle Stephens, Ph.D., Yale

Whitney Strub, Ph.D., California (Los Angeles)

Judith Surkis, Ph.D., Cornell

Gayle Tate, Ph.D., CUNY

Mary Trigg, Ph.D., Brown

Carolyn Williams, Ph.D., Virginia

Omaris Zamora, Ph.D., Texas (Austen)

Women's, Gender, and Sexuality Studies 988 (SGS-WGSS)

Ph.D. Requirements

Ph.D. Requirements

- Ph.D. Requirements: An Overview
- Course Descriptions
- Areas of Concentration

- Exams and Dissertation

Ph.D. Requirements: An Overview

Consult the current Graduate Student Handbook for detailed requirements. 72 Credits total:

- 39 Course Credits (13 courses)
- Remaining credits may include transfer credits, dissertation research credits, additional course credits.

Proficiency in a second language

- Students without second language proficiency are recommended to begin acquisition as soon as possible.

Qualifying Examinations: Written and Oral Dissertation Proposal and Defense See below for information on Exams and Dissertation

Required Courses Core Courses:

- 988:582 Feminist Genealogies
- 988:587 Feminist Pedagogies
- 988:603 Feminist Knowledge Production
- An additional course in Feminist Theory, chosen from designated 988 courses *
- An additional course in Feminist Methods, chosen from designated 988 courses *

* Students may substitute a colloquium (988:525) for their additional theory course or for their additional methodology course.

Proseminars—two of the following:

- 988:510 Technologies and Poetics of Gender and Sexuality
- 988:520 Agency, Subjectivity and Social Change
- 988:530 Gendered Borders/Changing Boundaries

Remaining courses must be selected in consultation with the advisor to form an area of concentration. Transfer credits may be accepted toward meeting the required 39 course credits.

M.A. Core Course Descriptions

M.A. Core Course Descriptions

1. 988:515 *Feminism: Theory and Practice*

This course aims to illuminate the interconnections of theory and practice by exploring particular modes of feminist activism and the complex theoretical issues that feminist praxis raises. The course seeks to foster an understanding of the multiple ways that feminist theory has opened our imaginations to the possibilities for inclusive democratic practices, and expanded the repertoire of strategies for realizing social change.

2. 988:520 *Agency, Subjectivity, and Social Change*

This course investigates women's mobilizations to transform social and political institutions, which also transform women activists themselves. Examining global feminist movements in the past as well as in the contemporary world, this course seeks to explicate how women's activism and agency continue to challenge dominant discourses on agency, subjectivity, culture, politics, authority, religion, and society.

3. One course in feminist theory. May be selected from 988:582, 988:583, or other courses to be designated each semester as fulfilling this requirement.

988:581 *Feminist Genealogies*

As a methodology, genealogy seeks to trace concepts back not to their origins (a task which presupposes continuity), but to points at which contradictions and contestations erupted in a manner productive of later discursive formations. This course examines key modern theories whose contradictions provoked feminist thought and elicited feminist critiques (for example, Hegelian, Liberal, Marxist, Existentialist and others). Both primary and secondary texts will be examined from perspectives of the first wave of the 19th century feminism, and second and third wave twentieth century feminism.

988:583 *Contemporary Feminist Theories*

This course will examine how recent feminist theories have critiqued a variety of traditional boundaries such as theoretical categories of identity, global hierarchies of power, and disciplinary boundaries. The original contributions of feminist theories to conceptual thinking will be explored around key concepts such as agency, identity, Difference, location, intersectionality, transnationalism and nationalism, representation, resistance, power, and sexuality.

4. One course in feminist research and methods. May be selected from 988:602, 988:603, or other courses to be designated each semester as fulfilling this requirement.

988:602 *Feminist Methodologies*

This course focuses on both the advantages and disadvantages of different philosophical, methodological, theoretical, and disciplinary traditions for contributing to our knowledge of central issues in women's and gender studies. The goal is to provide students with the critical tools to utilize and interrogate existing methodologies and to adapt them to the enterprise of feminist research. What counts as authoritative knowledge? What defines good research and bad research? What is the role of the social in the constitution of knowledge? What makes research feminist?

988:603 *Feminist Knowledge Production*

This course is an introduction to many of the methods used in feminist interdisciplinary research. The course looks at how to formulate a research question, collect data, interpret and analyze evidence, and report research results. The course will be a forum to apply knowledge of methods and methodologies to students' own research and research-activist interests.

01:888 CRITICAL SEXUALITIES COURSES

01:888:215 *Introduction to Transgender Studies (3)*

This survey of transgender studies maps transgender as an emerging subject and object of study in the twenty-first century. Studying knowledges produced about transgender across medicine, history, anthropology, and women's and gender studies, we look at emerging transgender social practices as embedded in dynamics of race, class,

sexuality, nationality and ability. The questions we ask in this course include the following: What does the word "trans" mean, and in its multiple meanings, how does it open up space to imagine new possibilities of becoming? How does "trans" illuminate the institutional constraints on subjectivity on *everyone's* gender, and how does it relate to feminist and queer understandings of gender and power? How are transgender and transsexuality emerging as new identities with claims to medical care, rights, and recognition globally in the twenty-first century? What concerns are emerging as central to trans community formation, and for whom does the new visibility of trans identity function best? What trans and gender non-conforming communities, practices, and immigration flows are taking place outside the United States, and how do they inflect a global trans culture? We will frame our discussions of transgender social formations within historical, political, and economic contexts, and examine how transnational flows of global capital impact transgender and gender non-conforming identities. The readings reflect a range of disciplinary voices, including diverse forms of scholarship like memoir and manifesto, as well as film, art, graphic novels, blog posts and vlogs.

01:888:285 ***Lesbians and Gay Men and Society (3)***
This course is an experiment. While it seeks to introduce students to the subjects and populations announced in its title, it moves through queer of color materials (primary, secondary, etc) to explore how these populations become intelligible to themselves and to others in the first place. What are sex, desire, belonging, and their relationship to identity forms will, of course, be central to our collective inquiry. But the procedures of this class will be constantly demanding that students consider the multiple modalities of production and materialities of queer work. Furthermore, our readings and discussions will insist on the relevance of queer of color critique, experience, and cultural production to all identity forms, regardless of their conformity or dissent to racial, class, gender, or sexual norms.

This is a demanding course, and the syllabus is designed to help all of us share in the charge of making this a transformative experience. Students should review carefully the reading schedule and ask questions about the assignments. If they are not willing to engage in the level of work required for this course, this may not be an appropriate course for them.

01:888:290 ***Introduction to Critical Sexualities (3)***
This course introduces students to the study of sexuality from historical, cross-cultural, contemporary and global perspectives. We will look at the different meanings given to sexuality and the ways in which sexual practices are codified in diverse contexts so as to consider the roles of culture, economy, race and nation, social structure, policy, stigma etc. in shaping people=s understandings of their most intimate senses of themselves. We ask: what is defined as sex and what is prescribed and prohibited in diverse societies? What is considered normal and what perverse? How is sexuality related to gender, to homosexuality, to trans? What defines a sexual minority? We will look at questions of discrimination and activism, and at transnational flows and interactions between societies and peoples. We will also talk about issues in sexuality politics, such as questions of bias, media representations, sex work and trafficking, activism and HIV. Readings, films and guest lectures include historical, ethnographic, theoretical, sexological and creative approaches to both the U.S. and many other parts of the world, with some special emphasis on areas of the professor's expertise such as: Asians, media and popular culture, race and minorities.

01:888:291 ***Francophilia: Literature and Sexuality in Modern France (3)***
Viewing sexuality as a distinctive 21st Century Challenge, *Francophilia* examines literary representations of non-conforming sexualities in France from the 19th century to the present. Since the modern history of sexuality passes through France at its origins, *Francophilia* provides students with the means (both critical and historical) to

make sense of the emergence of contemporary categories of sexual identity—straight, lesbian, gay, bi, trans—along with the challenging literary works in which these categories were first imagined and tested. What makes French writing *queer*? What makes queer writing *French*?

In answering these questions you will learn to read closely and to write analytically about literature, film, and the history of sexuality. Our writers include many of the giants of modern French literature: Balzac, Baudelaire, Flaubert, Huysmans, Verlaine, Rimbaud, Proust, Gide, Yourcenar, Colette, de Beauvoir, Genet, Wittig, Brossard, Taïa, and Foucault, among others. We will also be screening at the end of the term a selection of recent films that explore the impact of the AIDS pandemic and the legacy of French colonialism.

Francophilia is a general education humanities course intended especially for first- and second-year students; more advanced non-majors are welcome as well. No previous college-level experience with literary or historical analysis is required. The course will be taught in English and all readings will be in translation, though students who have the ability to read French are invited to consult the original texts.

01:888:321 ***Queer Contexts: Same-Sex Desire, Culture, and Representation (3)***
What/who are queer subjects? What makes any given situation/context queer? This class uses theory, film, art, and current events to explore the above questions and contextualize the term 'queer' throughout a range of disciplines. Following the movement to extend queer analysis beyond the realm of sexuality, we will try to think 'sideways,' using queer methodology as a way to re-imagine the world in which we live as something 'other' than what it seems.

01:888:338 ***Transnational Sexualities (3)***
This course examines the relationship between sexuality and recent forms of nationalism, globalization, migration, imperialism and colonial/post-colonial histories. It will interrogate various dynamics of heterosexuality, but its primary focus will be queer and LGBTQ communities and issues.

Course Objectives

- To examine how constructions of the nation are established through regulation of and discourse on sexuality
- To examine the relationship between concepts of citizenship and norms of sexuality & gender
- To develop a deeper understanding of the wide range of discourses and frameworks which exists for interpreting sexuality & gender internationally
- To examine the ways in which global dynamics of communication & cultural exchange, travel & leisure, trade & commerce, wars & militarism, etc. all structure sexuality on the local, national and international scale

01:888:339 ***Research on Sexualities (3)***
This course takes a wide look at approaches and topics in research on sexualities. Covering major areas in sexuality studies, we take a global and interdisciplinary perspective looking at different parts of the world and different ways of doing and writing up sexuality research. Throughout we consider the construction and consequences of sexual normativity -- what is considered normal and what forms of sexuality are excluded or condemned. We will also be asking how erotic subjectivities are formed, reshaped and how sexual cultures change and we will place special emphasis on geopolitics, popular media and race. Readings contrast multiple genres: booklength case studies, theoretical and historical works, empirical researches, personal narratives, literature and criticism, policy and activist writings. For each, we will pay close attention to authors' methods of research, analysis and/or interpretation. Course readings, films and guest lectures explore the varying relation of sexuality to gender, race, ethnicity, nationality, policy, class and the economy.

01:904 SOCIAL JUSTICE COURSES

01:904:201 ***Introduction to Social Justice (3)***
Examining contemporary justice realities in order to understand the dynamics of oppression; linking competing theories of social justice to hierarchies of power grounded in race, ethnicity, nationality, gender identities and, class to particular strategies for social transformation and change.

There are (5) primary learning goals for this course: (1) developing and using tools for critical analysis of contemporary social justice realities in order to understand how identities intersect to exacerbate oppression and evolving interpretations of social justice in changing contexts; (2) exploring the meanings of basic social justice concepts such as equality, equity, meritocracy, fairness, human rights etc. in the context of issues of power and powerlessness, advantage and disadvantage, privilege and entitlement; (3) exploring the changing roles of individuals, groups, corporations and justice institutions of the State; (4) reflecting on personal identity and social commitment; (5) experiencing and reflecting on social justice through experiences with campus and community social justice organizations.

01:904:202 ***Practicing Social Justice (3)***
This course will examine the historic patterns of social justice practice as well as its changing face– its new players, new strategies and new challenges. It will engage students in looking at social justice practice from three perspectives: (1) individuals who act; (2) the organizations that mobilize action; and (3) the social injustice contexts local national and global that move individuals and organizations to action. It will explore a variety of strategies for action including: grassroots organizing, social media based organizing for political change and narrative change; identity based organizing. Students will have opportunities to learn about an important social justice practitioner in their area of interest and will be encouraged to explore the roots of their own social justice practice.

01:904:391 ***Topics in Social Justice/01:904:392 Topics in Social Justice (3)***
Selected topics in social justice. Topics vary each semester. Consult department.

01:904:401 ***Social Justice Capstone Seminar/01:904:402 Social Justice Capstone Seminar (3)***
In-depth exploration of a particular social justice issue such as globalizing inequality, gendered migration, war and displacement, refugee camps, militarization, the color of AIDS, asylum-seeking, the prison-industrial complex. Topic varies with instructor. See website for details.

01:904:493 ***Social Justice Independent Study/01:904:494 Social Justice Independent Study (BA)***
Independent study project under the guidance of a faculty supervisor. Permission of associate director required.

01:988 WOMEN'S, GENDER, SEXUALITY STUDIES COURSES

01:988:101 ***Intro to Gender, Race and Sexuality (3)***
In this course we will be thinking about the ways that race, gender and sexuality structure our social worlds and intimate lives. We will ask what it means to describe these categories as 'socially constructed' and consider the mechanisms through which they are produced and reproduced. At the same time we will pay careful attention to the material ways in which power is organized and distributed through these categories. Assuming that these are not 'natural' categories we will look at the work that goes into making them appear so, and consider the ways in which their meanings and efficacy change over time. In the latter weeks of the course we will begin to think more about the value and pitfalls of using identity categories as analytical frameworks and organizing platforms.

The course is invested in an interdisciplinary approach and as such we will broach these questions by engaging a cross section of academic, literary, popular culture and activist texts. The course is designed to be not only an academic endeavor, but also an attempt to bridge our academic, personal and political investments, as such I encourage you to bring your life experiences and political investments into the course and classroom as a valuable set of knowledges that we will attempt to build upon and challenge.

01:988:200 ***Gender, Digital Media, and Social Curation (3)***
This course investigates the relationship between the construction of gender, race, sexuality and technologies of digital media. Students will engage with theories of new media, as well as critical intersectional scholarship on gender, race, sexuality, and ability. Central to the course are questions of materiality and embodiment in the digital age; the impact of digital interactivity on the construction and production of gender, race, and sexuality; and the digital distribution of power relations, discipline, and surveillance. This course is highly collaborative, both at the level of class discussion, and at the level of practical application. Students will work together in small groups to create, maintain, and curate blogs, and a course Tumblr, as well as experimenting with video projects. As this is a course invested in curation, our syllabus will change from time to time to reflect the interests, and learning goals of our group. In short, it is a fluid work in progress!

01:988:201 ***Feminist Practices (3)***
Feminist practices involve social change projects inside and beyond the academy. Whether within the university or in larger national and global contexts, feminist projects challenge established relations of power, envision alternative possibilities, and act strategically to change social relations. Initially designed to eliminate women's economic, political, and social subordination, feminist practices have expanded to address injustices grounded in race, ethnicity, gender expression, heteronormativity, religion, sexuality, cissexism, environmental degradation, and geopolitical inequities. This course explores the scope of feminist transformational practices across multiple scales—intimate, communal, grassroots, national, transnational, global, and virtual---and multiple strategies.

The annual 16 Days Campaign against Violence Against Women, campus mobilizations for Trans* equity, the creation of a thrift shop in the poorest neighborhood in Hong Kong, activism against biopiracy, the rural reconstruction movement, the slow food movement, the creation of gender quotas for public office in more than 100 nations, a demand for inclusion at the World Social Forum, the prison abolition movement, Riot Grrrls, the creation of women's police stations in Brazil, Code Pink, Women in Black, Take-Back-the-Night rallies, transnational campaigns against femicide in Central America, the global campaign for sexual democracy, Sister Namibia's campaign against political homophobia, the three-year GEAR campaign to establish UN Women, V-Day performances of Vagina Monologues, DIY 'zines, the Women's Caucus for Gender Justice at the International Criminal Court….all examples of recent and continuing feminist practices. What do these practices have in common? What exactly makes them "feminist?" What is their relation to Women's and Gender Studies or to knowledge production more generally? This course is designed to explore such questions.

Feminism is a vibrant tradition that has contributed to intellectual ferment, cultural enrichment, and social transformation in all regions of the world for at least five centuries. Feminism is also a highly contested term—meaning very different things to those who caricature and repudiate it and to those who embrace the label. Some define feminism as a network of practices designed to eliminate women's economic, political, and social subordination. But many men and women endorse those goals while rejecting the feminist label. How do women and men who identify as feminist differ from those who do not? What is at stake in claiming the feminist label?

01:988:202 ***Gender, Culture, and Representation (3)***
This course examines the intersections of feminist theory, cultural studies, and cultural production, with a particular focus on how meaning is generated and mediated through cultural practices, products, and archives. Students will analyze a diverse array of cultural texts, including but not limited to digital and social media, film and television, art, advertising, literature, print and popular culture, performance, and material culture. Framed by an intersectional and transnational perspective, the course investigates how gender is constituted through and in relation to race, class, sexuality, and disability

01:988:235 ***Dynamics of Class, Race, and Sex (3)***
Race, Gender and Class are powerful constructs that operate within America. These constructs have contributed to and have been framed by oppressions that have supported the economic, social and political success of some at the expense of those who are considered outsiders. In this course we will explore the oppressions and the dynamics of these constructs through the lens of the experiences of Women of Color in America. The course provides an introduction to Cultural Literacy, and a basic understanding of how diversity enriches every structure in the U.S.

Readings, lectures, films and class discussions are an integral part of the class. They are used to help define these oppressions, and to clarify the manner in which they are experienced by Women of Color. THERE IS A LOT OF READING REQUIRED FOR THIS COURSE.

01:988:240 ***Gender and Science (3)***
What does gender have to do with science? What is science? Is science, by definition, the objective, value-neutral study of nature? What is participatory or phenomenological science? How do values related to gender affect the practice of science? In this course we will use a lecture/discussion format to cover material in feminist science studies in the areas of biology and psychology and their intersection. Alternative practices in science will be considered.

We will examine concepts of nature and objectivity, including examples of research in evolutionary biology and psychology, genetics, and sex/gender identity in psychology. Finally, we will move into new territory: the practice of science and what that practice involves in terms of values and self-critique. Examples of research will be discussed and critiqued.

Each student will carry out observations of a natural object/process and record their observations in a journal. Each week a thought question will be given; students choose one of these on which to write a short response and then to lead discussion on the topic. These questions are not the kind for which the answer is known – they are the sort that provoke thinking. Further, a short paper on the biography of a scientist relating the scientist's work to the context of their life is required. There will also be two quizzes. The final requirement is a 15 page research paper detailing the student's observations and relating them to relevant published scientific work, written according to APA style guidelines. Guest speakers, films, and literary sources will form part of the course.

01:988:257 ***Gender and the Body: Representation and Pornography (3)***
In this course you will learn about the histories of moving-image pornography, sex censorship, and feminist art in the United States. You will study this material in relation to histories of gender, race, sexuality, and ability. This course centers queer, women, and trans artists of color and asks: whose bodies and voices are systematically erased from history? How can art bring their stories to light? How can art about sex be a tool for self-determination and a world making praxis?

01:988:258 ***Gender, Race, and Contemporary Art (3)***
In examining the broad intersections of gender and race in contemporary American art, this course will primarily engage the question of **how black and white racial politics are reflected in and complicated by gender and contemporary art in the United States**. Race has significantly shaped the artistic production of contemporary African American artists, particularly in relation to experiences of class, sexuality, and culture. At the same time, those who write about race and its impact on visual culture often center their critiques on African American artists. This course will highlight the ways these artists have engaged in individual studio practices and collaborative creative endeavors in their artistic production, as well as how they have built coalitions centering on politics, representation, and art.

In addition to a focus on contemporary African American visual artists and the work they produce, we will also learn about the **theoretical frameworks** that both art critics and historians have developed for examining the relationship of race and gender with art. This dialogue is a paradigm for considering issues of gender, sexuality, and class that circulate within the art of 'othered' racial groups in the United States, including African Americans, as well as Latino/as, Asian Americans, Native Americans, and mixed race artists. We will also use our time together to think critically about racism, gender, and art in other cultures, both historic and in the present.

01:988:259 ***Homosexuality and Visual Culture (3)***
How has history been changed by queer artists? The canon of western art history has been marked by exclusion and restriction. Revisionist efforts have reclaimed previously overlooked artists played. Artistic representations and the historicization of them reveal the social, political, cultural, and economic forces that construct gender visually. This course will introduce you to the central role of homosexuality and homoeroticism in visual culture in the distant and recent past as well as the present. You'll learn about the marginalization of homosexual artists and how, even when seemingly secret or invisible, they continued to participate directly in cultural production of art and popular culture. You'll also learn about the ways artists, critics, and patrons remedy the neglect and overcome the censorship, as well as considering how the changing notions of language and the community have impact on their lives. This course includes fourteen sequential units.

01:988:260 ***The Modern Girl (3)***
Just after the end of the First World War, a new creature appeared on the streets of cities around the world. Her hair was short, as were her skirts. She smoked, wore lipstick, and went out dancing without a chaperone. No one knew what to make of her. To some, she was dangerous; to others, exciting. She was the flapper, *garçonne*, *neue Frau*, *moga*, *modeng xiaojie*, *kallege ladki*, *la pelona*: all terms for what we will call the "Modern Girl." This course examines the so-called Modern Girl of the 1920's and 1930's, considering how she reflected—and helped to create—a new "modern" lifestyle. The Modern Girl was both a fictional creation and a flesh-and-blood creature. We will investigate "her" in her many manifestations, from fiction, film, and advertisements, to the sound of her heels clicking on actual city streets. Modern Girls really did exist around the world, and, while this course will concentrate on the West, we will also look at examples from Asia, Africa and Latin America.

01:988:270 ***War: Critical Perspectives (3)***
What are the lived experiences, cultures and historical contexts of war? This course will allow students to grasp the complex mappings of war and to grapple with reconfigurations of gendered, raced, classed, sexual and national subjectivities linked to war. The global focus of this course will cover topics ranging from genocide and dirty wars to insurrectionary wars, where nation-building, gender formations, labor regimes and production practices are often dependent on legacies of war, terror and state terror, informing everything from labor and productive relations to economic development strategies, labor migration and neighborhood geographies to relations between neighbors

in the aftermath. We will compare post-September 11 migration trajectories of South Asians to earlier trajectories of Central Americans during the civil war, genocide and state terror of the 1980s. Incorporating cutting-edge research, the course will offer new ways of understanding war. By shifting the analytic frame from a focus on war as an instrument of statecraft and a means of destruction to war as a mode of production and reproduction, it will consider how nations, and subjectivities, are produced, contested, reproduced and transformed through war in ways that involve racialization and gendering. Indeed, in the course, we will examine subject production, nationalism, gender, race, class, sexuality and citizenship as formations that are integral both to statecraft and to insurrection.

01:988:284 ***Feminist Knowledge Production (3)***
Women's and Gender Studies is often called the academic arm of feminism for it challenges what is believed to be "known" about women (men and gender variant people), demonstrating that established "knowledge" is often shaped by research that takes elite men's lives as the unquestioned standard, omitting or distorting diverse embodied experiences. As an interdisciplinary field, Women's and Gender Studies seeks to correct distortions created when women, people of color, gender fluid and nonconforming people are omitted from the study of the world.

This course investigates how to study the complexity of women's, men's, and trans' lives in ways that take race, gender-power, ethnicity, class, and nationality seriously. Examining multiple analytical approaches, the course will demonstrate how feminist knowledge production challenges long-established beliefs about the world. The course is hands-on in that students will engage in projects that use different techniques of knowledge production including qualitative methods such as focus groups and interviews, quantitative methods, archival research, oral histories, and ethnographic methods. **This course is very strongly recommended for students considering writing a senior honors thesis.**

01:988:301 ***Feminist Theory: Historical Perspectives (3)***
What is Theory? What is feminist theory and how does it relate to feminism activism and education? Who can theorize? About whom? What is the relationship between the theorist and the object(s) of her knowledge? How is she embodied?

In this class we study feminist theory in connection with feminist activism and its history, namely we study feminist theory as influenced by and reacting to historical circumstances and feminist social movements. We also discuss feminist thought in relation with several important bodies of thought, from liberalism to Marxism, and as related to various disciplines, from psychology to political science.

Aware that the theorizing I / eye has historically been white rather than non-white (and male rather than female, and heterosexual rather than queer), in this class we present a variety of theoretical positions across lines of race, ethnicity, and sexuality, highlighting feminist theory as a conversation, at times contentious, between asymmetrically positioned theorists, most of them situated in the Western tradition. By the end of this class, you will acquire a basic understanding of a variety of feminist concepts, you will be able to recognize theoretically a certain feminist claim, and you will learn how to apply feminist theory to a certain problem.

01:988:302 ***Feminist Theory: Contemporary Engagements (3)***
Theory is a practice that helps one to make sense of one's questions and situation. Feminist theory does this with attention focused on the interrelated categories of gender, race and class. Part of the challenge and fun of feminist theory is to do analyses of gender, race, and class simultaneously. It's like a three-dimensional chess game, but if it isn't done that way, I don't think it's honest theory. We also have to take into account the fact that all theory, like

speech, uses language. In the case of theory, written language is used. Writing is subject to all sorts of interesting, multivalent and contradictory meanings. Difference, in my thinking the crucial concept for not only feminist theory but also for most theory, is at the heart of writing and our work.

01:988:303 ***Global Feminisms (3)***
This course aims to explore the diversity of Black feminist theorizing undertaken by women in different parts of the African diaspora. Our primary focus will be to raise discussion about the diversity of African women's lives across continents, based on an understanding on their social subject positions through their own cultural productions, primarily the written word, and also art, music, dance, dress and other cultural forms.
We shall discuss the question of what "feminism" means in Black/Africa worlds by looking at the issues through three concentric circles; what are the local gender constructions through which women are socialized?; in what ways do these accord with or contradict notions of women as subjects of a state?; given these two sets of issues, in what ways do Continental African feminist strategies (if the can be seen in any unified manner) differ from or parallel strategies evolved in the United States or other parts of the Black world to deal with similar concerns?

01:988:307 ***Women and the Law (3)***
This course will provide an interdisciplinary learning experience in which students consider the unique and dynamic relationship between law, gender, and race. We will begin with a discussion of key frameworks for understanding women and the law. We will discuss the basic elements of an intersectional approach to identity, as well as competing definitions for assessing women's equality in society in general and before the law more specifically. After this foundational segment, we will conduct an in depth review of cases, commentary, and theory related to employment discrimination, bullying, sexual harassment, and rape. The course will end with a hands-on educational experience in which students learn the basic mechanics of trial advocacy and participate in a mock civil trial.

01:988:317 ***Gender and Consumption (3)***
What does it mean to consume? How is consumption related to gender? Is consumption about desire? How much agency do we have as consumers? Is shopping political? What models do we have for challenging or changing consumer culture? Over the course of the semester we will be tackling these questions as we explore different aspects of consumer culture, its institutions and sub-cultures, and its global reach. These questions take us to the heart of feminist theory, as they delve into the terrain of identity, value, power, and privilege.

01:988:321 ***Queer Contexts: Same-Sex Desire, Culture, and Representation (3)***
What/who are queer subjects? What makes any given situation/context queer? This class uses theory, film, art, and current events to explore the above questions and contextualize the term 'queer' throughout a range of disciplines. Following the movement to extend queer analysis beyond the realm of sexuality, we will try to think 'sideways,' using queer methodology as a way to re-imagine the world in which we live as something 'other' than what it seems.

01:988:332 ***The Color of AIDS: The Politics of Race During the AIDS Crisis (3)***
In recent years, the visibility of people of color (particularly women and children) infected with and affected by HIV/AIDS in the United States, and elsewhere, has sparked discussions of the ways in which individual and structural factors shape people's negotiation of risk, protection, mobilization, access to care and medication. This course focuses on the representation of AIDS in scholarly, popular and community discussions. One of our key concerns will the degree to which race thinking has shaped and continues to shape the representation of communities and the solutions identified in response to challenges. Our work will begin by placing the discussion of AIDS within a framework of contested social meanings of illness and deviance, or what Paula Treichler has aptly called "an epidemic of signification." We will explore linkages between how *we* imagine and represent illness and already

existing notions of racial difference. Discussions of selected moments throughout the crisis will help us understand debates about the meanings of blackness, from the designation of Haitians as a risk group in the earliest stages of the epidemic to current debates about AIDS in Africa as well as the role of African-American males in the US epidemic. Discussions of gender, sexuality, and the status of AIDS among some US-based communities of color will help foreground the problematic nature of "culture" and "visibility" in health policy, research and care provision.

01:988:344 ***Women and Leadership (3)***
This seminar explores women's leadership on the local, national and global levels. Readings and discussions will investigate themes in leadership, including feminist scholarship on the theory and practice of leadership and women's experiences as leaders in a variety of diverse contemporary and historical settings. The Learning Goals are for students to better understand issues of women's leadership and to further development their own leadership potential.

Issues to be considered include different types of leaders from charismatic figures to consensus builders and path breakers; feminist critiques of power and leadership; what is "ethical", "responsible" or "transformative" leadership; the varied social, racial and cultural contexts that provide opportunities for women's leadership in formal as well as informal settings, including communities, worksites, social and political institutions, as well as in women's rights and other social movements; whether women lead differently from men and if so, how and why; how leadership can be taught or encouraged as well as held accountable; and what women/feminists need to be leading about in the 21st century.

01:988:350 ***Gender and Spirituality (3)***
This class explores women's spirituality, feminist theology, and spiritual systems from around the world. What wisdoms do earth based religions have to share with us in the new millennium? Is the Goddess a true representation/reflection of divinity? How does the feminine manifest in Spirit? Does nature provide any insight into the mystery of Spirit? What is the Shaman's Death, and can it lead to enlightenment? How do we access spiritual systems, develop and maintain a spiritual practice in an extremely secularized environment? These are some of the questions that will be addressed in this class.

This class is designed to integrate cognitive and affective learning processes. Through the exploration of feminist spirituality we will have opportunities to embody spirit and support the informational network of mind, body and spirit. To facilitate this combination of intellectual inquiry and experiential opportunities students will be required to keep a personal journal.

01:988:368 ***Producing Identities: Race, Gender, Class, and Sexualities (3)***
This course looks at how identities are produced – socially, culturally, politically, sexually – from institutional definitions to style and consumption, from stereotyping to personal expression. How much do we shape who we are and how much are we formed by the market, social categories, pop culture, our skin, genitals or hair? We begin with the notion of identities as they operate in the market – corporate identities, brands, signatures, advertising, market niches, commodities, all constitute identities. And some consumers oppose these processes through culture jamming or independent identity production. We then examine the interaction between gender, ethnicity, class and nationality with a special focus on race and sexuality with an extended treatment of girls. The course takes a multiethnic and global perspective; we talk about bodies, media, toys, tourism and disease. The course treats sexuality in depth and will count towards the minor in Critical Sexuality Studies.

01:988:371 ***Making Change (3)***
This course in Women's and Gender Studies explores women's theoretical, strategic and material interventions into modern political culture. We will focus particularly on the different activisms through which women have sought to achieve political, economic and personal goals and analyze the strategies they have employed. How have the political and economic status of "women" at different moments affected their rights and responsibilities as workers and citizens? How have women's relationships to men, family, capitalism and the state shaped their goals and strategies?

01:988:396 ***Topics in Women's and Gender Studies (3)***
Selected topics in women's and gender studies. Topics vary each semester. Consult department.

01:988:405 ***Gender and Human Rights (3)***
This course offers students an opportunity to learn the basic history and discourse of women's human rights. It will cover United Nations instruments of human rights law, the reframing of women's rights as human rights as an example of feminist theory in action, and the application of human rights to issues of gender-based violence, health, and sexuality. It is grounded in the experience of the global movement for women's human rights and the diverse voices from around the world that have shaped it over the past two decades.

The Learning Goals for this course include understanding how to use gender analytics as a tool for academic research and for practices of social change as well as seeing the complexity and variety of differently gendered lives around the globe. Students will be able to identify, analyze, and critique the formation of social, economic, and political hierarchies grounded in gender and sexuality intersecting with race, ethnicity, culture and nationality

01:988:407 Women's Global Health Movements (3)
Informed by the history of the International Women and Health Meetings (IWHMs), this course investigates the political vision and organizational structure for women's health movements around the world. It contrasts early strategies driven by coalitions of activists from the North, which focused on reproductive rights, self-help, and a definition of health based largely in the physiology of women's bodies with approaches advanced by activists from the global South, which attend to the social, cultural, and economic factors that affect women's access to the most basic healthcare. This course examines contemporary feminist conceptions of health grounding in a comprehensive framework attentive to international power dynamics, globalization, macroeconomic policy, national and global poverty, conflict and war, and debt crises in various countries. The class analyzes the political tactics and strategies women have devised to secure access to healthcare for themselves, their families, households and communities. Introducing students to the global institutions, organizations, and policies that impact health, course material also traces how women's nongovernmental organizations have attempted to transform existing institutions and policies of global health governance to enable women in all regions of the world to lead physiologically, psychologically, and emotionally healthier, more dignified lives.

01:988:408 ***Gender, Economic Inequality & Health (3)***
This course draws on a multitude of interdisciplinary scholarly resources to investigate the ways in which domestic and global economic inequality places significant numbers of people at high risk for health crises at the same time that it undermines access to care. It builds upon "social determinants of health" frameworks that understand disparities in health and access to care within the context of broader inequities and forms of oppression based on gender, sexuality, class, race, ethnicity, and nationality. In addition, the course seeks to examine the influence of "structural determinants" on such social determinants of health, including macro-economic policies, global economic restructuring, political ideologies, geopolitical conflicts, etc. By the end of the semester, students will

have developed a level of "structural competency" that will allow them to explain how economic, social, political, and cultural sources of inequality intersect in global systems of structural violence, articulate how they contribute to both worsening individual health indicators and increased rates of social problems, and give an epidemiological account of the unequal global distribution of inequality and its effects. Most importantly, students will learn to envision care practices that will allow them, whether as clinicians or as citizens, to begin to reduce inequality and remedy its health and social consequences.

01:988:409 ***Gender, Environmental Justice & Health (3)***
Over the past half-century, scholars have debated the relationship between the quest for "endless growth"–capital accumulation on a global scale–and resource exhaustion. This course situates women's health in the context of these debates, investigating the health consequences of environmental crises linked to various market-based development strategies and technological innovations. Analyzing externalized business costs in the currency of human health, the course investigates illness caused by toxic industrial products and byproducts, injury from resource extraction processes such as nuclear fission and deep-water oil drilling, the manifold health hazards stemming from violent conflict over control of scarce resources in postcolonial states, and dangers that attend dislocation resulting from climate change.

01:988:410 ***Debt, Crisis, and Women's Health (3)***
We are more than what we owe. Yet, the heightened role of financialization in the global economy over the past 60 years has increasingly bound global policy, national health infrastructures, social life and human health to a moral calculus of indebtedness. Debt is the fundamental economic and social formation that has fueled the global economy since the 1970s; at the center of which is an economic system of wealth accumulation by dispossession. This economic doctrine is largely responsible for the unprecedented inequality and the health consequences of economic stress that plague the present era. To analyze this connection, this class approaches debt through interdisciplinary frameworks of analysis. It investigates debt and crisis as economic, social, political and cultural constructs that shape who we are, how we relate to others and how we experience health.

Taking a long-historical view of how debt has evolved to become the binding glue of the contemporary global economy, the class focuses on the interconnected ways that the global credit economy perpetuates and depends on inequality and crisis. In particular, the course highlights how and why the adverse health consequences of debt disproportionately impact poor people and women. Seeking to unsettle conventional market-centric understandings of individual obligations to pay back what we owe, the class will entail a systemic and relational investigation of our social and ethical obligations to the lives and well-being of others. In so doing, we will regard credit and debt as interlocking components of structural inequality. Over the course of the semester we will explore the following questions:

- What is debt and what are its origins?
- How does debt contribute to different forms of crisis? Like:
- Health emergencies
- Economic collapses
- Unravelling of democracies
- How has debt become an unspoken governing force in national and global systems of social discipline and criminalization?
- Why has debt been used to undermine our social responsibilities to the public good and global well-being?
- What can be done to mitigate debt and/or to rebuild a health promoting sustainable economy?

01:988:412 ***Global Food Politics: Health Consequences (3)***
Production of food for profit by sale in commodities markets rather than for use has momentous consequences for women in the global North as consumers and in the global South in the struggle for subsistence. Neoliberal trade policies have restructured national economies, and new speculation in global commodities markets has limited access to food by the poor. Close to one billion people suffer from malnutrition and many more from food deprivation. At the same time, creation of consumer markets for processed foods has led to other health crises. This course will examine impacts of global commodities markets on food distribution, diet, and health.

01:988:413 ***The Global Pharmaceutical Economy & Health (3)***
Thanks to the recent capers of the much-loathed pharma villain, Martin Shkrelli, as well as the fact that healthcare reform debates are heating up as presidential campaign season shifts into high gear, issues like the cost and availability of drugs are on everyone's mind. We'll begin this semester asking questions like why drugs in America cost so much, and why certain populations seem to have all their pharmaceutical needs met while, on the other hand, much needed drugs have yet to be developed for the sicknesses suffered by other groups. In the first section (roughly the first half of the semester), we'll explore issues like how intellectual property law tends to promote pharmaceutical monopolies, how Big Pharma influences the decisions and practices of both patients and healthcare practitioners through high-powered marketing campaigns and an overly opaque clinical trials and regulatory approval processes, and how all of these dynamics affect the health and life prospects of individuals from different demographics in uneven, and often unequal, ways. In the second section of the class, we will broaden the scope of discussion beyond the sphere of pharmaceuticals strictly-defined to explore the wider meanings and roles of drugs in culture and society. How is the difference between a 'medicine' and a 'drug' historically and socially constructed, and what, in turn are the physical, mental, and political repercussions of this process? What is the nature of addiction, and how should patients, practitioners, and politicians address so-called 'epidemics' of drug use/abuse? What is the legacy of the War on Drugs and how does it intersect with wider patterns of health disparity, racial inequity, and socioeconomic inequality? After carefully considering these and other related questions, we will wrap up the semester with a concluding section where we will think about ways to fix the problems in the healthcare-pharmaceutical complex and remedy our troubled drug culture, all with an eye to improving individual health, ameliorating population health disparities, and decreasing social inequities and economic inequality.

01:988:414 ***Care Work (3)***
Nursing and teaching – two women-dominated professions – lie at the heart of the "care economy." Involving work that requires intensive physical labor, person-to-person communication, and spatial proximity, the intimate nature of care work resists mechanization. In contrast to the production of commodities, the highly personalized labor of care is driven by human need rather than profit maximization. This course provides an overview of distinctive gendered professions whose object of labor is the human subject. In nursing and teaching, skill entails the effective exercise of professional judgement. Focused on the cultivation and preservation of human capacities, this professional labor resists routinization and automation. In addition to examining the distinctive nature of these caring professions, the course explores recent efforts to heighten the profit-making potential of the care economy, and it considers the long-term implications of efforts to deskill and outsource care work.

01:988:422 ***Internship in Women's and Gender Studies (BA)***
Students work in organizations related to women's and gender studies. Supervision by assigned staff at the placement. Paper, student journal, and assessment of work performed at placement required. Permission of undergraduate director required.

01:988:490 ***Seminar: Women and Contemporary Issues (3)***
Intensive reading and discussion; designed for graduating seniors. Topic changes annually. Pre-requisite: 01:988:301 or 302 or 303 or by permission of instructor.

01:988:491 ***Seminar in Women's and Gender Studies (3)***
Advanced course on a selected topic in women's and gender studies. Paper is required. Pre-requisite: 01:988:301 or 302 or 303 or by permission of instructor.

01:988:492 Seminar: Special Topics in Women's and Gender Studies (3)

Selected interdisciplinary topics in women's and gender studies. Past topics included sexuality, popular culture, women and religion, and women and the arts. Prerequisite: 01:988:301 or 302 or 303 or by permission of instructor.

01:988:493 Independent Study/01:988:494 Independent Study (BA)
Independent study project under the guidance of a faculty supervisor. Permission of associate director required.

01:988:497 ***Honors Research in Women's and Gender Studies/01:988:498 Honors Research in Women's and Gender Studies (3)***
The two-semester Honors Research Seminar is an intensive upper level undergraduate seminar designed to provide you with the structure and support to complete an exemplary senior thesis project. During the fall semester of the seminar, we will undertake a series of in-class workshops designed to help you identify the major components of your thesis project: your major argument, evidentiary sources, and significant analytic frames. The goal of the fall semester is to help participants to produce the first twenty pages of their final thesis project.

Thesis seminars are effective because they provide you the structure and accountability to produce a solid final product incrementally. You also have the opportunity to write and share your ideas in a community of similarly placed thinkers all striving for the same goal.

However, the seminar also requires its participants to be self-motivated, to be able with guidance to design research plans and work deadlines and adhere to them.

01:988:499 ***Capstone in Gender and Media (3)***
In this capstone to the Gender and Media minor, students will develop, discuss, produce and critique a project related to gender, media, and technology. Students will articulate and present the project in written and oral formats and will have the option to also (1) create an in-depth multimedia component to the project; 2) complete an internship; or 3) complete a service learning experience.

This course is a project-based seminar, which means that in a small-class setting we will all guide one another's learning and work on a substantive project. A key goal of this course is for students to apply analytic frameworks related to gender and feminism to a large scale digital media production project.

As a 400-level, seminar-style class, this course involves a great deal of participation, independent and self-directed work, and a large-scale project that is built throughout the semester. The capstone project will address a major problem, question, or issue of interest related to gender, media, and technology. We will workshop these projects together as group, learning both technical and analytic aspects of gender-based, and feminist media messaging. Students also have the option to complete an internship or service-learning component as part of this course, and for students who choose this option; you must have your project approved by the instructor and the department internship co-ordinator.

Areas of Concentration

Areas of Concentration

Feminist scholars at Rutgers have identified three innovative areas of focus to shape the interdisciplinary Ph.D. in Women's and Gender Studies. These areas are designed to stimulate original scholarship addressing new research questions and fostering the growth of feminist inquiry and practice. Each area of concentration is introduced through a proseminar that presents key questions, theories, methodologies, and empirical case studies.

Agency, Subjectivity, and Social Change

This concentration investigates women's mobilizations to transform social and political institutions, which also transform women activists themselves. Examining global feminist movements in the past as well as in the contemporary world, this concentration seeks to explicate how women's activism and agency continue to challenge dominant discourses on agency, subjectivity, culture, politics, authority, religion, and society.

Suggested Cognate Courses:

- Women's Movements in Comparative Perspective
- Third World Feminism: Critique or New Paradigm
- Literary Criticism and Social Critique: Feminist Theory, Science, and Epistemology
- Gender and Public Policy
- Urban Poverty, Theory, and Policy
- Proseminar in Women and Politics
- Gender and the Self
- Gender and Mass Politics
- Sociological Perspectives on Feminist Theory
- Colloquium in History of Women
- Colloquium in African American History
- Comparative Labor Movements
- Contemporary Fiction
- Fiction and Narrative Theory: Life Narratives
- Psychological Approaches to Literature: Self, Psychopathology and the Modern Age

Technologies and Poetics of Gender and Sexuality

This concentration investigates the hierarchical production of cultural Differences. Technologies of gender and sexuality refer to the manifold practices through which categories of Difference are produced and deployed to structure relationships and institutions in particular social and historical contexts. The poetics of gender and sexuality involve the creative and symbolic work of the imagination that reifies and naturalizes Difference as a central factor of human relationships and cultural meaning.

Suggested Cognate Courses:

- Sociology of Gender

- Race, Class, Gender
- Anthropology of Gender
- Conceptualizing Gender
- Recent Advances in Gender Scholarship
- Sexuality in Cross-Cultural Perspective
- Economic Anthropology: Culture and Capitalism
- Black History and the Fictive Imagination
- Literature and Politics: Textuality, Embodiment, Community
- Women and Work
- Women Writers of Modernism
- The Sixties and Postmodernism
- Theater of the 20th Century
- Literature and Social Commentary
- Problems in 20th Century Art: Constructions of the Female Body
- Topics in Comparative Literature: Genre and Gender
- Topics in Comparative Literature: The Body in Literature
- Literature and Social Order: Literature and Class Gendered Borders/Changing Boundaries

Feminist scholarship has sought to challenge and de-center many traditional boundaries by cultivating voices "from the margin" and exploring dimensions of women's experiences that defy these boundaries. This concentration examines how feminist scholarship can illuminate phenomena such as fluctuating national borders, shifting contours of sovereignty, displacement, immigration, and diaspora, uncertain global economies, hybrid identities, and changing sexualities.

Suggested Cognate Courses:

- Anthropology of Industrial Society: Transnationalism
- Gender and Comparative Politics
- American Literary Women: Black Literature and Migration
- Postcolonial Literature and Theory
- Postcolonial Writers, Postmodern Conditions
- 20th Century Black Women Writers: Imagining the Diaspora
- Japanese Literature/Queer Theory
- US Latino/a Theater and Performance: From Rural and Urban Roots to Queer and Feminist
- Border Mappings
- Women in African Diaspora
- Black Diaspora

Women's, Gender, and Sexuality Studies 988 (SGS-WGSS)

Admission Deadlines

Admission Deadlines

APPLICATION TYPE	US APPLICANTS	NON-US APPLICANTS	MERIT-BASED AID
Ph.D.	December 21	December 21	December 21
M.A.	March 15	March 15	March 15
B.A./M.A.	April 1	April 1	April 1

Cognitive Science 185 (SGS-COGS)

Cognitive Science 185

For more information please see the the Cognitive Sciences website here.

Geospatial Information Science 455 (SGS-GEOIS)

Geospatial Information Science 455

Coordinator of the Certificate Program
Richard G. Lathrop, Director, Grant F. Walton Center for Remote Sensing and Spatial Analysis
Professor of Environmental Monitorning, Department of Ecology, Evolution & Natural Resources, Cook Campus, Rutgers University, New Brunswick, NJ USA
Phone: 848-932-1580
Email: lathrop@crssa.rutgers.edu

Overview

The GIS graduate certificate is not a separate degree but is awarded in addition to a student's major field of study. This certificate program is open to graduate students enrolled in and working towards completion of any of Rutgers University's graduate Master's or Ph.D. programs.

The Certificate program is designed to introduce students to these three strands of research:

1. One strand of research addresses the fundamental questions of the human conceptualization of space and how geospatial information (i.e., information that can be tied to a particular location on the earth's surface) is generated, located, recorded, modeled, manipulated and/or communicated through computer technology.
2. A second strand of research, addresses how geospatial information science and technology can be applied to real world problems across a variety of physical, environmental and social science disciplines.
3. A third strand of research investigates the societal implications of GIS technology on social interactions on a variety of levels, e.g., people to the environment, people-to-people, and people-to-government.

The Certificate program is designed to introduce students to these three strands of research, as well as provide the students hands-on training in the technology so that they may apply it in their disciplinary areas of research. To receive the certificate, students must complete, in addition to the requirements in their major program, the, basic and advanced topics courses listed below. In addition, the student must complete a 3 credit seminar in Geospatial Information Science that will serve as a capstone course.

The GIS graduate certificate is not a separate degree but is awarded in addition to a student's major field of study. This certificate program is open to graduate students enrolled in and working towards completion of any of Rutgers University's, the State University of New Jersey, graduate Master's or Ph.D. programs.

Geospatial Information Science 455 (SGS-GEOIS)

Degree Requirements

Degree Requirements

Prerequisites
Individual students should discuss their academic preparation with the Certificate Coordinator to determine whether the prerequisites have been fulfilled or to determine an appropriate suite of classes to fill any gaps.

Basic Topics in Geospatial Information Science (6 cr.)
One course each in geographic information systems and remote sensing as prerequisite for the Certificate seminar:

GIS
34:970:592 ***Topics in Geographic Information Science (3)***
Note that this course typically has a prerequisite of 34:970:591. As an alternative to this prerequisite, an "entrance" exam provided by the course instructor must be passed.

Remote Sensing/Digital Image Processing:
11:216:371 Introduction to Remote Sensing Image Analysis (3) or 16:450:615 Seminar in Remote Sensing (3) or Remote Sensing for Geological Sciences (01:460:427) or 16:375:551 Remote Sensing of the Ocean and Atmosphere (3)

Certificate Seminar (3 cr.)
16:455:501 ***Seminar in Geospatial Information Science (3)***
This seminar will address the three foci that define research in geospatial information science: 1) human conceptualization of space as it relates geospatial information; 2) applications of geospatial information science and technology; and 3) societal implications of GIS technology.

Advanced Topics in Geospatial Information Science (3 cr.)
16:137:538 Database and Data Warehousing (3)
16:137:550 Fundamentals of Analytics (3)
16:137:552 Python Methodologies/Data Science (3)
16:137:553 Business Intelligence with Visual Analytics (3)
16:198:535 Pattern Recognition and Theory (3)
16:198:541 Advanced Data Management (3)
16:215:520 Landscape Ecology (3)
16:332:560 Computer Graphics (3)
16:375:551 Remote Sensing of the Atmosphere and Ocean (3)
16:450:511 Land Change Science (3)
16:460:527 Remote Sensing for Earth and Planetary Sciences (3)
16:712:615 Geophysical Data Analysis (3)
16:960:586 Interpretation of Data I (3)

17:610:520 Organizing Information (3)
17:610:550 Introduction to Information Technologies (3)
17:610:557 Database Design & Management (3)
17:610:560 Foundations of Data Science (3)
17:610:561 Data Analytics for Information Professionals (3)
22:198:603 Business Data Management (3)
34:970:590 Graphical Communication and Design Representation (3)
34:970:595 Command Line GIS (3)
34:970:634 Machine Learning for Public Informatics (3)

Alternative courses can be substituted with permission of the Certificate Coordinator.

As an alternative, a pre-approved independent or directed study may be substituted. An independent study could be coupled with an online course or courses taught through the Rutgers Office of Continuing Professional Education website. For example, the University Consortium of Geographic Information Science periodically offers instructor-led online courses on special topics that may satisfy this requirement. In addition, the ESRI Virtual Campus has a host of online courses that cover specific advanced topics. Use of these online/continuing professional education courses to fulfill an advanced topic requirement must be pre-approved by the Certificate Coordinator.

Course Descriptions

Course Descriptions

Prerequisites
Individual students should discuss their academic preparation with the Certificate Coordinator to determine whether the prerequisites have been fulfilled or to determine an appropriate suite of classes to fill any gaps.

Basic Topics in Geospatial Information Science (6 cr.)
One course each in geographic information systems and remote sensing as prerequisite for the Certificate seminar:

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Geospatial Information Science 455 (SGS-GEOIS)

Information for Students

Information for Students

Prospective Students: How to Apply
Students interested in geospatial information science and applying to Rutgers University for graduate study should contact the graduate program that most closely aligns with their education/career goals. Prospective students are also encouraged to contact individual faculty members for more specific information on their research programs.

General information on Rutgers University for prospective graduate students, as well as more specific information on admissions, can be found at the Rutgers University Graduate Study website.

For information on specific graduate programs, visit the following programs by academic department:
Business and Science
Computer Science
Communication and Information
Ecology and Evolution
Electrical and Computer Engineering
Environmental Science
Geography
Geological Sciences
Marine and Coastal Sciences
Urban Planning and Policy Development

Present Students: How to Enroll
Graduate students interested in completing the Graduate Certificate Program should contact the Certificate Coordinator, Prof. Richard Lathrop. For more information or to enroll in the graduate certificate program, contact Professor Richard Lathrop.

Human Dimensions of Environmental Change Graduate Certificate Program 378 (SGS-ENVCH)

Graduate Certificate Director

Rachael Shwom, Ph.D., Professor
Cook Office Bldg., Rm. 212
Phone: 848-932-9235
Email: shwomrac@sebs.rutgers.edu

The Department of Human Ecology coordinates an interdisciplinary graduate certificate on human dimensions of environmental change. The program is open to any student enrolled in a Rutgers University graduate program. The certificate program represents a collaboration among faculty from several graduate programs, and allows students to examine the political, cultural, economic, historical, and other human dimensions of environmental change while carrying out studies an existing graduate program. The certificate is designed to help students access theoretical perspectives, skills, and/or other resources provided by various programs and departments at Rutgers while simultaneously creating spaces for interdisciplinary interaction.

Degree Requirements

Degree Requirements

Students must fulfill the following requirements for the certificate:

16:378:501 ***Seminar on Human Dimensions of Environmental Change***
This Nature and Society seminar is the foundational course for the graduate certificate. It is designed to provide students with a survey of theories and concepts in environmental studies. The course examines how perspectives and arguments of oft-cited theorists (e.g. Foucault, Haraway, Marx) have been taken up in nature-society scholarship in geography, anthropology, development studies, environmental studies, and other disciplines. To do so, students read selected writings from social theorists as well as empirical applications, making sense of writing and concepts through collective discussion and debate.

16:378:502 ***Topics Seminar***
This course focuses on a particular topic with respect to human dimensions of environmental change. The seminar changes from year-to-year based on faculty availability and student interest. In recent years, 502 seminars have included: Interdisciplinary Research Design, Long-term Risk Assessment, Organizing for Change, Climate and Society and Environmental Sociology. Please consult the Graduate Director for current 502 seminar offerings.

At least one course outside the major.

In addition to coursework in their own graduate program, certificate students must complete one course outside their major. Recent elective courses satisfying the course requirement from outside the major include those listed below.

Anthropology

070:503 Social/Cultural Anthropology

070:511 Anthropology of Gender

070:542 Environmental Anthropology

070:544 Environmental Anthropology in a Changing World

070:545 Anthropology of Development

070:547 Neoliberalism and Globalization

Bloustein School of Planning and Public Policy

970:618 Environmental Planning and Management

970:672 Energy Policy and Planning

833:680 Energy, Sustainability and Policy

Ecology and Evolution

215: 510 Conservation Ecology (requires prerequisites)

215: 520 Landscape Ecology (requires prerequisites)

215:598 Foundations of Ecology

Environmental Science

375:534 Environmental Sustainability

Geography

450:522 Tourism Geography/Tourism Planning

450:606 Rethinking Economy

450:516 Urban Geography

450:606 Cities & Environment

450:609 Geographies of Globalization

450: 509 Uneven Development

450:508 Environment & Development

Law

833:686 Climate Governance (Syllabus [258k PDF])

Sociology

920:571 Health, Environment, and Society

920:577 Environmental Sociology

920:575 Case Study Methodologies

For more information about the Certificate Program in Human Dimensions of Environmental Change, or a list of participating faculty, contact the department's Graduate Certificate Director.

To Apply: Please contact the HDEC graduate director (Rachael Shwom at shwomrac@sebs.rutgers.edu) who will review and approve your application file (137k PDF) for the HDEC certificate. Once approved, the graduate director will submit the application to the Senior Administrator for Degree Certification at the School of Graduate Studies.

For general information about the Rutgers Graduate School, visit the website.

Course Descriptions

Course Descriptions

16:378:501 ***Seminar on Human Dimensions of Environmental Change***
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Latin American Studies (SGS-LAS)

Graduate Certificate

Graduate students seeking to strengthen their area expertise are encouraged to earn a certificate in Latin American studies in conjunction with an advanced degree in any Rutgers graduate program. Candidates demonstrate expertise in Latin American studies through their graduate or professional field, but are also encouraged to pursue interdisciplinary studies to enhance their professional development.

Students interested in pursuing the certificate should communicate with the Director of the Center for Latin American Studies to discuss the requirements and fill out the application form here.

Certificate Requirements

Certificate Requirements

Students interested in pursuing the certificate should communicate with the Director of the Center for Latin American Studies to discuss the requirements and fill out the application form here,

Requirements include:

1. Successful completion of 9 graduate-level credits (three courses, with a grade B or above in each). Two of the three courses must be outside the degree program in which the student is enrolled. Coursework must be approved in advance by the Center Director. Students are strongly encouraged to enroll in scheduled seminars to fulfill this requirement. However, in some cases 3 credits may be a directed research/ independent study course.
2. Successful completion of a significant research project in Latin American studies. At the master of arts level, this may include a master's thesis, if required by the student's program, or an expanded seminar paper. At the Ph.D. level it is expected that a substantial part of the dissertation will be devoted to Latin American issues. Alternatively, a scholarly article focused on a topic in Latin American studies may also fulfill this component of the certificate.
3. Demonstrated language proficiency in a Latin American language. The student should be able to carry out research and to converse with native speakers. Proficiency may be attained through coursework (having completed the second year of language study) or informal education. Proficiency will be determined by completed coursework, examination, or by arrangement with the director of CLAS.

Students satisfying these requirements will be awarded the **Graduate Certificate in Latin American Studies** upon completion of their degree.

Science and Technology Management 885 (SGS-STM)

Science and Technology Management 885

Program Offered: Certificate in Science and Technology Management (Online Option Available)
Director of Certificate Program: Professor Deborah Silver, Executive Director, Professional Science Master's Program, Busch Campus

Certificate Program
The certificate in science and technology management provides business and business-oriented courses intended to supplement training in a science, mathematics, or engineering degree.

Students currently enrolled in master of science, doctor of philosophy, and postdoctoral programs in science, mathematics, and engineering are eligible to apply for the certificate and will be awarded the certificate upon completion of the 19 credits. Students who already possess a graduate degree in science, mathematics, or engineering may also apply independently for the certificate program. Individuals who have worked in industry for at least five years are eligible to apply for the certificate program as part-time students.

There are five required courses (13 credits) and two elective courses (6 credits).

Science and Technology Management 885 (SGS-STM)

Degree Requirements

Degree Requirements

Students currently enrolled in master of science, doctor of philosophy, and postdoctoral programs in science, mathematics, and engineering are eligible to apply for the certificate and will be awarded the certificate upon completion of the 19 credits. Students who already possess a graduate degree in science, mathematics, or engineering may also apply independently for the certificate program. Individuals who have worked in industry for at least five years are eligible to apply for the certificate program as part-time students.

Required Courses (13 credits)

16:137:502 ***Principles of Communication and Leadership for Science and Technology Management (3)***
This course provides the fundamentals of communication and leadership in the sciences and technology, and professional development. Course sessions will combine theory, practice, self-assessment, and research by student teams. Topics include oral and written communication skills, effective communication strategies, communicating in a team environment, managerial role transitioning, building personal leadership capabilities, and analyzing leadership qualities.

16:137:530 ***Principles of Accounting and Finance for Science and Technology Management (3)***
The course provides students with a practical, working knowledge of the tools and language of finance in general and as they pertain to the management of science and technology in particular. The course emphasizes the use, and limitations, of financial tools in making business decisions including capital expansion, funding R&D, and managing working capital. Principles are presented heuristically; financial theory presented as a foundation only as necessary. Case studies and examples provide students with hands on practice in the application to business problems of the principles discussed. By the end of the course, students will be able to prepare and communicate the financial part of the business plan developed in the Capstone course and participate proactively in financial and funding decisions at work whether it be at an established company, an R&D driven start-up or in an academic setting.

16:137:600 ***Management in Science and Technology Capstone (3)***
The capstone course is a project-based course covering the fundamentals of entrepreneurship, intrapreneurship, innovation commercialization, and intellectual property. Students are expected to work on team projects analyzing technology innovations and creating business plans.

16:137:507 ***Market Assessment and Analysis for Business & Science (3)***
This course covers basic marketing and the critical importance for science and technology graduate students to fully understand strategic marketing concepts (4P's: product, pricing, promotion, placement) in the context of science and technology brands. There are two flavors of the course: IT/Digital Marketing and Life Science Marketing.

16:137:500 ***Ethics in Science and Technology (1)***
This course addresses behaviors inconsistent with ethical scientific conduct. It will prepare the student in identifying ethical problems, provide a problem solving method and impress the importance of ethical resolution in conducting business. Rather than addressing the needs and views of the philosophers, academics and social critics, this course is tailored towards practical aspects of managing ethics. The online section will provide background

information while the on-campus sessions will include interactive workshops and lectures to reinforce the information learned online. (Students who have had an equivalent ethics course can be waived from this requirement.)

At least two electives (6 credits) must be taken for the certificate. The full list of elective courses is available at MBS Course Catalog.

Students must attend at least six colloquia in the Professional Science Master's program for the certificate.

Please see our apply now page for more information on how to apply to the program.

Science and Technology Management 885 (SGS-STM)

Course Descriptions

Course Descriptions

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