

Brooklyn College

Bulletin

*Division
of Graduate
Studies
2004-2007*



Division of Graduate Studies

Brooklyn College

The City University of New York

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'Nil sine magno labore'

The Brooklyn College seal contains the Latin inscription *Nil sine magno labore*. This phrase means "Nothing without great effort," a reminder that nothing can be achieved without hard work.

This motto symbolizes the dedication and achievement that have always been the hallmark of Brooklyn College students.

Student responsibility

In accepting admission, students assume responsibility for knowing and complying with the regulations and procedures set forth in this **Bulletin** and in subsequent ones, as appropriate.

Nota bene

This issue of the **Graduate Bulletin** is published for three years. Students should read the **Schedule of Classes** each term for the College calendar; changes in College requirements, new course offerings, and other announcements.

The City University of New York reserves the right, because of changing conditions, to make modifications of any nature in the academic programs and requirements of the university and its constituent colleges without advance notice. Tuition and fees set forth in this publication are similarly subject to change by the Board of Trustees of The City University of New York. The City University regrets any inconvenience this may cause.

Students are advised to consult regularly with College and department counselors concerning their programs of study.

Office Relocations

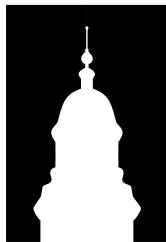
Plaza Building will be closed for demolition as of September 1, 2004. For information regarding new office locations, including relocated James and Roosevelt Hall offices, please call the individual office, refer to kiosks and posters on campus, or visit the Brooklyn College Web site, www.brooklyn.cuny.edu, and click on "West Quad Construction Zone."

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2004–2007

BROOKLYN



COLLEGE

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About Brooklyn College

Brooklyn College is a constituent part of the City University of New York, the nation's leading public urban university. The university comprises eleven senior colleges, six community colleges, a graduate school, a law school, and a school of biomedical education. More than 200,000 students are enrolled at campuses located throughout the five boroughs of New York City.

The mission of the College

Brooklyn College is a comprehensive, state-supported institution of higher learning in the borough of Brooklyn, a culturally and ethnically diverse community of two-and-one-half million people. As one of the eleven senior colleges of the City University of New York, it shares the mission of the university, whose commitment is to access and excellence.

The College seeks to extend its educational mission to graduate students through advanced programs offered by the Division of Graduate Studies. The academic goals of the division build on the College's tradition of academic excellence in the liberal arts and in teacher education programs. The division offers studies in specialized areas to serve the growing number of adults who seek to continue their intellectual pursuits and broaden their professional goals. In addition, in order to meet the changing needs of society, Brooklyn College continually develops new degree and advanced certificate programs as well as new concentrations of courses in existing programs. The College participates in a range of doctoral programs offered by the Graduate School and University Center of The City University of New York, including campus-based programs in the sciences.

A historical view

The Board of Higher Education authorized the establishment of Brooklyn College in 1930, merging the Brooklyn men's branch of City College and the women's branch of Hunter College into the first public coeducational liberal arts college in the city of New York. The Division of Graduate Studies was instituted in 1935.

Brooklyn College was a large institution from the day it opened its doors in rented quarters in the borough's downtown business area. Acquisition of a permanent site in the residential Flatbush section of Brooklyn provided a spacious campus. On October 2, 1935, Mayor Fiorello H. La Guardia used a silver-plated shovel to break ground for the new campus—twenty-six acres of broad lawns bounded by handsome Georgian-styled buildings. On November 4, 1999, that same shovel was used in the groundbreaking ceremonies that launched the \$54.4 million expansion of the Brooklyn College Library.

Since its opening, Brooklyn College has distinguished itself as one of the nation's leading public institutions of higher education. In 1987, when the Carnegie Foundation for the Advancement of Teaching asked academic deans from across the country to name institutions where general education was succeeding, Brooklyn College was among the five most frequently cited. In 1989 the College was cited in a report by the National Endowment for the Humanities for developing "a core that has led to the revitalization of Brooklyn College and drawn much public attention and praise." In 1992 Brooklyn College was one of six colleges and the only public institution to have graduating students receive both a Rhodes Scholarship and a Marshall Scholarship. The College received the 1998 Theodore M. Hesburgh Award from the Teachers Insurance and Annuity Association-College Retirement Equities Fund in recognition of an excellent program in faculty development. For the past three years, Brooklyn College students have been among the twenty college juniors nationwide who are chosen annually for a Beinecke Brothers Memorial Scholarship. The Princeton Review, in *The Best 345 Colleges*, 2003, ranked Brooklyn College number one for the most beautiful campus nationwide, fifth for best academic value and for friendly interaction of its diverse student body, and ninth for its location in a "great college town." The College maintained high rankings in the 2004 edition.

Brooklyn College's reputation has attracted an outstanding faculty, known throughout the nation and the world for their scholarly achievements. Its professors include three Pulitzer Prize winners: historian Edwin G. Burrows, novelist Michael Cunningham, and journalist Paul Moses; novelist and screenwriter Carey Harrison; playwright Mac Wellman; composers Tania Léon and

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Amnon Wolman; painter Elizabeth Murray; art historian Jack Flam; computer theorist Rohit Parikh; psychologist Anthony Sclafani; nuclear physicist Carl Shakin; audiologist Shlomo Silman; and mathematics educator Rosamond Welchman.

The Division of Graduate Studies draws on this record of achievement. For almost seventy years, the division has enabled qualified students of diverse backgrounds to acquire an advanced education of superior quality at a comparatively modest tuition. Today students from almost every state and more than thirty countries are working toward their master's or doctoral degrees at Brooklyn College. The Division of Graduate Studies offers more than sixty master's degree and advanced certificate programs in the arts, education, humanities, social sciences, sciences, and professional studies. Each year hundreds of graduate students embark on professional careers with the assistance of the Center for Career Development and Internships. Fostering a strong sense of community are the Graduate Student Organization, a number of student clubs, a graduate student newsletter, a series of graduate student lectures, and lively social events.

An outstanding faculty, highly praised academic programs, and distinguished graduates—these are the hallmarks of success at Brooklyn College. The College is continuing to develop programs and curricula that will train forthcoming generations of students. Today, under the administration of its eighth president, Dr. Christoph M. Kimmich, Brooklyn College is building on the traditions that have given it a place among the nation's most respected institutions of higher education.

Accreditation

Brooklyn College is accredited by the Middle States Commission on Higher Education, 3624 Market Street, Philadelphia, Pennsylvania 19104 (telephone: 215-662-5606), the Council on Education for Public Health, the Association of American Universities, the American Association of University Women, the American Board of Examiners in Speech Pathology and Audiology, and the American Dietetic Association. The School of Education is currently preparing for National Council for Accreditation of Teacher Education approval and will be visited in spring 2005. Brooklyn College's academic programs are registered by the New York State Department of Education.

Programs in the Division of Graduate Studies

The Division of Graduate Studies offers more than sixty programs leading to the degrees master of arts, master of fine arts, master of music, master of public health, master of science, and master of science in education; a combined bachelor's-master's degree program; a master of arts–doctor of jurisprudence program (offered jointly with Brooklyn Law School); and several advanced certificate programs in education and other fields. The master's degrees may be earned as terminal credentials or en route to doctoral degrees offered at the Graduate Center or elsewhere.

City University doctoral courses are given at Brooklyn College in some disciplines. Graduate-level courses are also given in Africana studies, classics, comparative literature, philosophy, Puerto Rican and Latino studies, and women's studies.

Courses are offered in fall, spring, and summer terms. In the fall and spring terms, most graduate classes meet once each week in the late afternoon or early evening; a few classes are held on weekends. Students may enroll for either full-time or part-time study.

The Division of Graduate Studies offers the following degrees and advanced certificates (specializations, concentrations, or options are also indicated).

Liberal arts and sciences programs; professional and preprofessional programs

Master of arts

- Art history
- Biology
- Chemistry
- Community health: thanatology, education
- Computer and information science; graphics/multimedia
- Economics; economics-accounting
- English
- French
- Geology
- History
- Judaic studies
- Liberal studies
- Mathematics
- Music: musicology; performance practice
- Physics
- Political science: political science; urban policy and administration

Psychology: experimental psychology; industrial and organizational psychology-human relations; industrial and organizational psychology-organizational psychology and behavior

Sociology

Spanish

Speech: public communication

Theater: theater history and criticism

Master of fine arts

Art: digital art; drawing and painting; photography; printmaking; sculpture

Creative writing: fiction; playwriting; poetry

Television production

Theater: acting; design and technical production; directing; dramaturgy; performing arts management

Master of music

Composition

Performance

Master of public health

Community health: community health; health care management; health care policy and administration

Master of science

Audiology; speech-language pathology

Computer science and health science

Exercise science and rehabilitation

Information systems

Nutrition

Physical education: sports management

Television and radio

Master of arts–doctor of jurisprudence

(with Brooklyn Law School)

Political science and law

Programs leading to certification of teachers in academic and special subjects and certification in other educational areas

Master of arts, all grades

Art teacher

Music teacher

Master of arts, grades 5 through 9

General science teacher

Master of arts, grades 7 through 12

Biology teacher

Chemistry teacher

English teacher

French teacher

Mathematics teacher

Physics teacher

Social studies teacher

Spanish teacher

Master of science in education

Childhood education teacher (grades 1–6)

Bilingual teaching

Liberal arts

Mathematics

Science and environmental education

Early childhood education teacher (birth to grade 2)

School counseling (bilingual extension may also be earned)

Health teacher (all grades)

Literacy teacher

Middle childhood education specialist: mathematics (grades 5–9)

Physical education teacher (all grades)

School psychologist (bilingual extension may also be earned)

Teacher of students with disabilities in early childhood and childhood education

Teacher of students with speech and language disabilities

Advanced certificate

Educational leadership

Music education

Performance and integrated media arts

School counseling

School psychologist

Combined undergraduate and graduate degree program

Brooklyn College offers a four-and-one-half-year bachelor of science–master of professional studies combined degree program in computer and information science and economics. Entry is at the undergraduate level.

City University Ph.D. programs

The City University of New York Graduate Center offers doctoral programs in the disciplines listed below. Information about these thirty programs and the many areas of specialization within each discipline may be found on the Graduate Center Web site, www.gc.cuny.edu. The *Bulletin of The Graduate Center* is also available at www.gc.cuny.edu/bulletin. Applications may also be obtained from the Office of Admissions or downloaded

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from the Graduate Center Web site: www.gc.cuny.edu/prospective_students/admissions_index.htm.

A student may apply to a CUNY doctoral program upon completion of a B.A. or a master's degree. A maximum of 30 acceptable graduate credits taken prior to admission to the doctoral program at the City University may be applied toward the degree provided the courses were completed with a grade of B or higher within an appropriate period preceding the time of application. Should applicants wish to apply credits they earned at an institution other than CUNY, the courses they took must be equivalent to comparable courses at the City University.

Doctoral programs are administered by the Graduate Center. Depending on the field, doctoral courses are given at the Graduate Center or at the senior colleges of CUNY. CUNY doctoral students may use any of the university's extensive library facilities.

Doctoral programs

Anthropology
Art history
Biochemistry
Biology
Business
Chemistry
Classics
Comparative literature
Computer science
Criminal justice
Earth and environmental sciences
Economics
Educational psychology
Engineering
English
French
Hispanic and Luso-Brazilian literatures and languages
History
Linguistics
Mathematics
Music (also D.M.A.)
Philosophy
Physics
Political science
Psychology
Social welfare
Sociology

Speech and hearing sciences

Theater

Urban education

Certificate programs (open to students enrolled in doctoral programs)

American studies

Film studies

Interactive technology and pedagogy

Medieval studies

Renaissance studies

Women's studies

For further information, consult the Graduate Center's Web site, www.gc.cuny.edu.

Honor societies

Kappa Delta Pi is a national honorary organization in education. Members are selected from undergraduate juniors and seniors and graduate students.

Sigma Xi, the Scientific Research Society, encourages original investigation in the natural sciences, pure and applied. The fields of activity of the society include the physical sciences, the life sciences, the earth sciences, and mathematics. The Brooklyn College Chapter elects students to membership in the society on the basis of research achievement in one of the fields listed above.

Alpha Epsilon Rho is a national honor society in radio and television. Members are selected from both undergraduate and graduate students on the basis of achievement.

Students are nominated each year for selection to the Dean's Honor List, Division of Research and Graduate Studies. Each graduate department or program is asked to submit names according to strict requirements available in the Office of the Dean.

Pizer Graduate Student Colloquium

The Pizer Graduate Student Colloquium is a series of lectures and presentations by graduate students, usually based on, but not limited to, their master's thesis research or creative projects. Graduate students are chosen from all departments and programs. The colloquium is sponsored by the Office of Research and Graduate Studies.

Brooklyn College Alumni Association

The primary charge of the Brooklyn College Alumni Association (BCAA) and the Brooklyn College Office of Alumni Affairs, 1239 Ingersoll Hall, is to foster, maintain, and enhance the alumni connection to the College by providing activities, services, and programs for regional chapters, graduating classes, and professional and cultural affiliate groups. Upon graduation, alumni begin a lifelong relationship with the College. Many participate as mentors, internship sponsors, scholarship sponsors, and career advisers in programs designed to assist students while they are still in school.

Under the auspices of the BCAA and the Office of Alumni Affairs, and with the guidance of the national board of directors, alumni chapter activities flourish all over the country. Each spring alumni return to the campus for Alumni College Day, when the BCAA holds its Annual Meeting and its Annual Awards Luncheon, at which the Distinguished Achievement Awards and the Jerome S. Milgram Service Award are presented, and its Annual Meeting, at which the recipients of Sam Levenson, '34, and Esther Levine Levenson, '34, Scholarships are announced. Alumni also take part in the Annual Gala Reunion in the fall, when the BCAA honors the Alumna and Alumnus of the Year.

The Office of Alumni Affairs (telephone: 951-5065) maintains a database of more than 88,000 alumni and keeps biographical files on graduates that include news clippings, information on awards, and other relevant materials. Alumni are issued ID cards that enable them to use selected resources of Brooklyn College and obtain such services as a long-term health care option and an MBNA affinity credit card. Graduates are encouraged to advise the office of their current addresses so that they may receive College and alumni mailings.

The Brooklyn College Foundation, Inc.

Established in 1958, the Brooklyn College Foundation raises funds to encourage and promote the academic purposes of Brooklyn College of the City University of New York and the educational welfare of its students, faculty, alumni, and the community. The foundation is incorporated in New York State, registered as a 501(c)(3) not-for-profit corporation, and listed by the New York State Office of Charities Registration.

Through the generosity of alumni and friends, the foundation provides resources to advance the mission of Brooklyn College: providing a superior liberal arts education at an affordable price for the bright and ambitious students of Brooklyn and beyond.

The Brooklyn College Foundation Board of Trustees oversees the foundation's operations. The trustees, chosen for their professional expertise and generous support of the College, are elected for three-year terms and serve without compensation.

The foundation provides more than six hundred scholarships and awards, valued at over \$4 million annually, helping to attract the best and most ambitious students to Brooklyn College. The foundation administers funds that enable the College to recognize and honor faculty distinction in teaching and scholarship as well as to offer stipends for sabbaticals and travel expenses that allow faculty and students to pursue their scholarly endeavors. The foundation also supports academic programs by providing funds to augment classroom instruction with special lectures, conferences, workshops, and distinguished guest speakers.

Gifts from alumni and friends to the Brooklyn College Foundation underwrite current needs that cannot be funded by state assistance, tuition, or fees. As state funding to public higher education decreases, the College increasingly relies on such private contributions to strengthen and augment its programs. Annual unrestricted gifts support scholarships, facilities, cocurricular student learning opportunities, equipment for classrooms and laboratories, special seminars, and faculty development initiatives.

For more information, please call or write the Brooklyn College Foundation, 2900 Bedford Avenue, Brooklyn, NY 11210 (telephone, (718) 951-5074; e-mail, giving@brooklyn.cuny.edu) or visit its Web site, www.brooklyncollegefoundation.org.

Admission

This section addresses admission requirements relating to academic qualifications, the admission process, and New York State health law. It also explains additional admission requirements for international applicants and provides important information on admission status.

The Office of Graduate Admissions is located in 1602 James Hall and is open during the day Monday through Friday and two evenings during the week. For specific office hours, call 951-5914. The Office of the Dean of Research and Graduate Studies is in 3238 Boylan Hall (telephone: 951-5252).

Academic qualifications

The following sections describe the general academic requirements for admission to the Division of Graduate Studies. Admission decisions are based on review of the complete record of the applicant.

Baccalaureate degree

Applicants for admission to a degree or advanced certificate program in the Division of Graduate Studies must have graduated with an acceptable baccalaureate degree from an accredited institution and have completed an approved undergraduate program of study.

Grade point average (GPA)

In most majors, a minimum grade point average of 3.00 in the undergraduate major and a minimum average of 2.70 on the record as a whole are required.

In determining the admission of students who do not have the required undergraduate averages, grades in appropriate graduate courses completed in an approved institution may be considered.

Graduate Record Examination (GRE)

Graduate Record Examination scores are required in some programs. Examination requirements, if any, are stated under a program's matriculation requirements in this *Bulletin*.

An application to take the examination may be obtained from Educational Testing Service, P.O. Box 1-6000, Princeton, New Jersey 08541-6000; telephone: (609) 771-7670; e-mail: gre-info@ets.org.

Applicants who have taken the examination should

arrange to have the scores sent directly to the Office of Graduate Admissions, 1602 James Hall. GRE scores must be received by application deadlines.

How to apply for admission

Applicants for admission to the Division of Graduate Studies should apply to the Office of Graduate Admissions. A nonrefundable fee of \$50 is payable when the application is filed. Credentials submitted with an application become the property of Brooklyn College and will not be returned to the applicant.

Applicants should inform the Office of Graduate Admissions of any change in the name that appears on the admission application. Official documentation is required to substantiate name change (for example, a marriage certificate or court document).

For information concerning readmission, see "Miscellaneous information" in the section "Academic Regulations and Procedures."

Application

Applicants may apply to the Division of Graduate Studies either by completing a paper application or by filing an on-line application.

Applicants who choose to file a paper application may obtain an admission packet from the Office of Graduate Admissions. The complete admission packet, including transcript(s) from undergraduate and any graduate institutions, letters of recommendation, TOEFL scores (for international applicants), and any other examination scores required by particular departments or programs, must be submitted by the specified deadline to the Office of Graduate Admissions, 1602 James Hall, Brooklyn College, 2900 Bedford Avenue, Brooklyn, New York 11210.

Applicants who choose to apply on-line may do so at <http://applytograd.brooklyn.cuny.edu>. Applicants who choose this option must arrange to have all supporting documents as described above submitted to the Office of Graduate Admissions, 1602 James Hall, Brooklyn College, 2900 Bedford Avenue, Brooklyn, New York 11210.

Transcripts. A complete and official transcript from each postsecondary institution must accompany the application. (For students at Brooklyn College, the Office of Admissions will obtain a copy of your

Brooklyn College transcript.) Applicants who apply on-line may arrange to have transcripts mailed directly to the Office of Graduate Admissions.

Upon admission to the Division of Graduate Studies, applicants who are completing their final undergraduate semester must arrange to have a final transcript that indicates the degree awarded submitted to the Office of Graduate Admissions prior to registration.

Letters of recommendation. All students applying for admission must submit two letters of recommendation. The letters must be from faculty members familiar with the applicant's academic achievement and plans for graduate study. In some cases, letters of recommendation from other professionals may be acceptable. Applicants who want to submit letters of recommendation from professionals other than faculty members should contact the department of major study for permission.

On-line applicants may arrange to have letters of recommendation mailed directly to the Office of Graduate Admissions.

Application deadlines

To ensure consideration for admission, it is the applicant's responsibility to make sure that the application and all supporting credentials are received by the Office of Graduate Admissions by the stipulated dates.

Complete applications must be filed by March 1 for the summer and fall terms and by November 1 for the spring term.

Students educated outside the United States must file applications by February 1 for the summer and fall terms and by October 1 for the spring term.

Students are advised to consult the Office of Admissions for any changes in deadlines.

Applications received after the deadlines will be considered if space is available in the program of interest.

Late and/or incomplete applications

Applicants who miss the regular filing deadline and/or file an incomplete application may be admitted provisionally (see "Admission status for all students," below). In either case, an official or unofficial transcript indicating that a baccalaureate degree has been awarded must accompany the application. Applicants whose applications are incomplete may be placed in provisional status provided that both the department and the applicant indicate this choice to the Office of Graduate Admissions.

Applicants who are accepted provisionally must sign a declaration in which they a) state that the information supplied is complete and accurate; b) agree to complete the full application process by the next regular deadline during the first semester of study; and c) acknowledge and accept that if they do not register, or fail to complete the application process (including submission of all required official documents) during the first semester of study, or are denied admission following such application, they will be barred from further registration.

Late applicants provisionally admitted are classified in nonmatriculated status in the provisional semester unless the department wishes to approve matriculated status and completes the admission and application review process before the student registers for classes.

Application review and determination of admission status

After a completed application has been received, the department or program to which the student has applied will review the application. Once the application, transcripts, examination scores, and letters of recommendation are reviewed, the Office of Graduate Admissions will inform students of the admission decision.

Additional admission requirements for international applicants

I. All applicants with international credentials should file their applications one month prior to the specified deadline. This will help facilitate the special process required for evaluating international documents. International students are not eligible for provisional or nondegree admission.

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2. The international applicant's undergraduate degree must be equivalent to an American baccalaureate degree; that is, it must encompass the required professional and liberal arts training required for that degree in the United States.
3. Official transcripts, degree certifications, and diplomas in the applicant's language of study are required to be mailed with the application form in accordance with the instructions in the application packet. Documents in languages other than English must be accompanied by an official English translation by an accredited agency.
4. International applicants whose native language is not English or who were educated in a country where English is not the official language must take the TOEFL (Test of English as a Foreign Language) and arrange to have official score reports sent to the Office of Graduate Admissions. The minimum acceptable TOEFL score is 500 (or 173 in the computer-based version), but applicants should note that some programs identified in the application form require significantly higher TOEFL scores.

Applications and information regarding the TOEFL may be obtained from TOEFL Services, P.O. Box 6155, Princeton, New Jersey 08541-6155; telephone: (609) 921-9000; e-mail: toefl@ets.org.
5. Applicants who will require an F-1 visa to enter the United States for study at Brooklyn College must complete the Confidential Declaration and Certification of Finances contained in the application booklet. Supporting financial documentation must be submitted in order to obtain the I-20 Certificate of Eligibility from the college. Students with F-1 visas may be accepted only in matriculated status and are required to enroll full time. International students admitted to the College are required to subscribe to a health insurance plan and to arrange for their own housing. (See the chapter "Counseling and Campus Services.")
6. Soon after their arrival in New York, international students should report to the International Student Services Office, 1307 James Hall. Immediately following, they should report their local address at the Office of Admissions, 1602 James Hall.
7. Matriculating students with a TOEFL score below 550 (or 213 in the computer-based version) are strongly advised to take English 600, Advanced Writing Workshop for ESL Graduate Students.

Admission status for all students

All applicants must meet the general academic admission requirements cited above. The department or program determines the admission status of accepted applicants. Any subsequent change in status is determined by the department or program.

The five admissions categories

1. Matriculated. Students in this status are formally admitted to pursue a degree. Applicants who fully meet the departmental and the general academic admission requirements are placed in matriculated status.

2. Matriculated with conditions. Students in this status are formally admitted to pursue a degree but must meet certain additional conditions as set by the department. It is recommended that the admission condition(s) be met within one year.

Students in the following admission categories are not formally admitted to pursue a degree.

3. Nonmatriculated. Students in this status have not been formally admitted to pursue a degree in a program or department. Students who demonstrate academic potential but who need substantial academic preparation in order to meet the program's requirements may be admitted by the department as nonmatriculated. The department will make recommendations for course(s) and/or other requirements. Students in nonmatriculated status may complete no more than 15 credits in this status. Nonmatriculated students will be recommended for promotion to matriculated status when they meet the requirements of the department. (See "Matriculation promotion" below for additional information.)

4. Nondegree. Students in this status have no intention of pursuing a degree. Applicants seeking nondegree status must be admitted by a specific department or program. Applicants who wish to take courses for personal or professional reasons, without pursuing a degree, may choose to apply for nondegree status. In this case, the applicant must sign a declaration acknowledging that a maximum of 15 credits completed in nondegree status may be applied toward a degree should the student ever be accepted as a degree candidate. (For additional information, see the section below on nonmatriculants.)

5. Provisional. Students in this status are temporarily admitted to a program. Applicants who file after the priority deadline and/or file an incomplete application may apply for provisional admission provided that the department, in consultation with the Office of Graduate Admissions, agrees. Students will be barred from registration after the first semester if they do not comply with all admission requirements.

Additional information for students admitted as nonmatriculants

Nonmatriculants may take a maximum of 15 credits. When they have completed 15 credits, a bar will be placed on their registration. A GPA of 3.00 is expected of students in any admission status category.

Matriculation promotion. Students admitted in nonmatriculated status are candidates for promotion to matriculated status. The department in which the student intends to earn a degree determines which course(s) and other requirements must be met in order for a student to be promoted to matriculated status.

It is expected that promotion to matriculated status will occur by the time 15 credits are completed or within one year of continuous enrollment. A GPA of 3.00 must be maintained in order to be eligible.

Students who do not meet the requirements of matriculated status will not be allowed to continue in their program beyond the 15-credit limit. See the section "Admission status for all students" for further explanation of nonmatriculated and nondegree status.

Nonmatriculated students are reviewed by and, if eligible, are promoted by their department. Every semester each nonmatriculated student will undergo departmental review. The department forwards the names of students meriting matriculated status to the Office of the Registrar, which notifies students of their change in status.

When a student is promoted to matriculated status, courses taken in nonmatriculated status are calculated in the GPA in the same manner as courses taken in matriculated status. (See "Calculation of the GPA" in the section "Academic Regulations and Procedures.")

Normally, only courses in the major should be considered when being promoted to matriculated status. Only courses in the major are calculated in the GPA.

Applicants admitted in nonmatriculated status beginning spring 1996 do not have to file a new admission application form in order to be promoted to matriculated status. *Students admitted prior to 1996 must file a new application with the Office of Graduate Admissions.*

Applicants admitted in nondegree status must secure approval of the department to continue after completing 15 credits in that department. They will not be allowed to register for credits beyond the 15-credit limit within any single department unless they apply for a change of status, in which case a new admission application must be filed.

Students who hold a master's degree may be allowed to take courses beyond the 15-credit limit provided that they maintain a GPA of 3.00 or higher. Such students must get the approval of the dean of research and graduate studies or, for students in education, the dean of the School of Education.

Note: Matriculation requirements specific to students admitted in the education programs are stated under "Education" in the chapter "Programs and Courses of Instruction."

Change of program

If a student wishes to change from one degree or advanced certificate program to another, the student must officially withdraw from the first program by filing a Change of Curriculum form in the Office of Graduate Admissions. A new application for admission to the second program must then be filed.

Transfer credit

Information about transfer credit is in the section "Academic Regulations and Procedures."

Students visiting from other schools

Students from other CUNY colleges who wish to take courses at Brooklyn College must submit, prior to registration, a CUNY permit from their home college, to the Office of the Registrar. This may be done in person or online using the CUNY e-permit system.

Students in attendance at colleges other than CUNY colleges may also be admitted as visiting students. They must file a Visiting Student Application Form and submit to the Office of the Registrar an official letter certifying that they are in good academic standing at their home

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college and have permission to take course work at Brooklyn College. Visiting student status is valid for only one semester and includes a nonrefundable \$50 application processing fee.

Miscellaneous information

Auditing courses

Students may register to audit graduate courses for no academic credit only if the department gives permission. These courses may not be repeated for credit. Students who wish to audit classes may obtain an application form in the Office of the Registrar, 1118 Boylan Hall. Consult the *Schedule of Classes* for further instructions.

Registration for courses

Students are expected to complete registration during the College's official registration period. *It is recommended that students consult with their graduate deputy or program head prior to registration. Entering students should bring a copy of their undergraduate transcript. Continuing students should present a copy of their up-to-date curriculum worksheet.*

Student immunization requirements

New York State law requires all students to submit a Student Immunization Record form proving immunity to measles, mumps, and rubella. The following constitutes proof of immunity: two doses of measles vaccine; and one dose each of mumps and rubella vaccine; blood test results showing immunity to each disease or an exact date of having had mumps or measles along with a copy of a lab report confirming positive titer. (Disease history is not valid proof of immunity for rubella.) Students who do not receive a Student Immunization Record as part of their admission packet may obtain one in the Health Programs Office (telephone: 951-4266 or 4505). While certain students may be exempt because of age, medical reasons, or religious belief, they must still complete the form and submit it before registering. Thirty days after the first day of classes, students who are not exempt and who have not submitted a valid form documenting full compliance will be prohibited from attending classes; will receive a WA grade for all classes, with no academic penalty; will not receive a tuition refund; and may be decertified for financial aid.

New York Public Health Law 2167 requires all students to submit a Meningococcal Meningitis Vaccination Response Form signed by the student or student's parent or guardian to the Health Programs Office. Students who fail to return this form within thirty days from the beginning of the semester *may not attend classes*. The form acknowledges receipt of mandatory meningococcal disease and vaccination information. Vaccination is not required.



Tuition and Fees

Tuition and fees listed in this *Bulletin* and in all registration material issued by Brooklyn College are set by the Board of Trustees of The City University of New York and are subject to change without notice. If tuition or fees are increased, payments already made are counted as partial payment. Students are notified of the additional amount due and of the payment deadline.

Tuition

The following tuition rates apply except when special tuition is set by the Board of Trustees of The City University of New York.

Tuition for graduate students

New York State residents. Students residing in New York State pay tuition of \$230 a credit. For courses in which the number of hours a class meets each week exceeds the number of credits, students pay \$230 a credit plus \$65 for each additional class hour. Noncredit thesis research and supervision courses are billed as three-hour; three-credit courses. Maximum tuition each term is \$2,720.

Nonresidents and international students.

Students residing outside New York State and international students pay tuition of \$425 a credit. For courses in which the number of hours a class meets each week exceeds the number of credits, students pay \$425 a credit plus \$85 for each additional class hour. Noncredit thesis research and supervision courses are billed as three-hour; three-credit courses. There is no maximum tuition each term.

Undergraduate courses. Graduate students who take undergraduate courses to satisfy graduate degree prerequisites, corequisites, or other requirements pay tuition rates set for undergraduate part-time matriculated students. If, on the other hand, the undergraduate courses are not required, then tuition is based on the part-time undergraduate nondegree rate.

Tuition for undergraduate students

Undergraduate students who take graduate courses as nondegree students and who receive graduate credit for those courses must pay the applicable graduate

tuition. No undergraduate student is required to pay more than the maximum tuition (at applicable residency or degree rates), regardless of the mix of undergraduate and graduate courses taken, as long as graduate courses are used toward the undergraduate degree. If the courses are used toward a graduate degree, the student must be rebilled at the graduate tuition rate. Credit for an undergraduate or graduate course may be applied toward either an undergraduate degree or a graduate degree but not toward both.

Tuition waiver for City University of New York employees

Full-time members of the instructional staff and full-time Gittleson employees may be exempted from the payment of tuition for up to 6 credits in graduate courses each term.

Information and applications for tuition waivers may be obtained in the personnel office of the CUNY unit in which the staff member is employed. Employees must meet standards and requirements of the College and be accepted by the Division of Graduate Studies.

New York State residency requirements

To be classified as a New York State resident, an applicant must be a citizen or permanent resident of the United States and must have resided in the state of New York for the twelve-month period preceding the first day of classes of the term in which the applicant enrolls.

Students classified by the director of admissions as out-of-state residents must pay tuition as nonresident students. They may apply to have their status changed to New York State resident by filing a City University residence form in the Office of the Registrar, 1118 Boylan Hall. The following documents must accompany this form: a copy of a lease and rent receipts or canceled rent payment checks for the period of one year before the term in which the student claims to meet state residency requirements; a certified copy of the most recent New York State or federal income tax return; and utility company bills. Applicants for residency who are under eighteen years of age must submit certified copies of a parent's or guardian's federal and state income tax forms. Students who were admitted to Brooklyn College with an immigration permanent resident card must submit the card at the

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time of filing. Additional information and requirements are contained in the City University residency form.

Students must provide all documents proving residency status no later than the end of the second week of classes of the semester in which that status would take effect. Documentation provided after that time will delay the new residency status until the following semester.

An applicant for residency who does not provide the registrar with the required information or documentation may be classified as an out-of-state resident. Students denied resident status by the registrar may appeal the decision within ten days of the date of notification.

Consolidated fees

Graduate students pay a consolidated fee for each fall, spring, and summer term in which they enroll. The entire fee must be paid at registration. No part of the fee is refundable.

The amount of the fee for the fall and spring terms is the same for full-time or part-time enrollment. The fee for all students in the summer term is the same. A full-time student is enrolled for 12 or more credits; a part-time student is enrolled for fewer than 12 credits.

In addition, all students pay a CUNY consolidated services fee each term that they register.

Full-time or part-time students (fall and spring terms)

| | |
|--------------------------------|---------|
| Student Center | \$32.50 |
| Student activities | 16.75 |
| Health Clinic | 10.00 |
| CUNY consolidated services fee | 5.00 |
| University Student Senate | .85 |
| Total | \$65.10 |

All students (per summer term)

| | |
|--------------------------------|---------|
| Student Center | \$32.50 |
| Student activities | 2.50 |
| Health Clinic | 10.00 |
| CUNY consolidated services fee | 5.00 |
| University Student Senate | .85 |
| Total | \$50.85 |

Special fees

| | |
|-------------------------------------|--|
| Application | \$50 |
| Application for readmission | \$10 |
| Duplicate diploma | \$15 |
| Duplicate record | \$5 for each duplicate of any receipt or similar item. |
| Late payment | \$15 for students who are delinquent in paying tuition and fees by the deadlines indicated in the <i>Schedule of Classes</i> and on the tuition bill. |
| Late registration | \$15 |
| Library fines | Students should consult the library for the policy on fines. |
| Maintenance of matriculation | Resident, \$630 Nonresident, \$1,070 |
| Makeup examination | \$15, for the first examination; \$5 for each additional examination, not to exceed \$25 at one time. |
| Material fees | Some courses entail a fee to cover the costs of special materials, film rental charges, transportation, field trip expenses, or other non-instructional costs. Material fees are subject to change and are nonrefundable. Details may be found in each term's <i>Schedule of Classes</i> . |
| Program change | \$10 for adding a course, changing from one course to another, or changing from one section to another if changes are made at one time. |
| Recreation and athletics | \$18.60, optional, for use of athletics facilities. |
| Reinstatement | \$15 for reinstatement if initial registration is canceled for nonpayment of tuition and fees. |

| | |
|----------------------------------|---|
| Replacement of ID card | \$5 |
| Reprocessing | \$15 for a check returned by bank as uncollectible. |
| Speech and Hearing Center | \$200 for speech-language diagnostic evaluation; \$175 for audiological evaluations; \$700 for fourteen forty-five-minute individual speech therapy sessions one time per week; \$1,260 for individual speech therapy sessions two times per week; \$120 per semester for aphasia group. Brooklyn College students, staff, and faculty with valid College ID receive a 50 percent discount. |
| Technology fee | \$75 (full-time students); \$37.50 (part-time students). |
| Transcript | \$4, waived for transcripts sent to the admissions offices of other units of the City University. |

Registration statements and payments

Registration statements are mailed to all students after they have registered for the semester. These statements display the current courses; list the tuition, fee charges, and any financial aid or scholarship awards; and provide a final balance, if any, for which students are responsible. Registration statements may also be requested by telephone or mail or in person at the Office of the Bursar, Student Accounts Office.

Brooklyn College accepts payments in the form of cash, money orders, and most major credit cards as well as by wire transfer. The College also offers a tuition budgeted payment plan that allows students to make up to five monthly payments of their total balance due for the semester. For the most up-to-date information concerning ways to make tuition and fee payments and for specific information about the budgeted tuition payment plan, consult the current *Schedule of Classes* or contact the Office of the Bursar, Student Accounts Office.

Refunds

A student who drops one or more courses voluntarily will receive a proportionate tuition refund according to the schedule below.

The following tuition refund schedule is subject to change by the Board of Trustees of The City University of New York. Fees are not refundable.

- 100 percent refund for dropping courses before the official opening date of the fall and spring terms;
- 75 percent refund for dropping within one week after the scheduled opening date of classes;
- 50 percent refund for dropping during the second week after the scheduled opening date of classes;
- 25 percent refund for dropping during the third week after the scheduled opening date of classes.

No refund is given if a student withdraws later than the third week after the scheduled opening date of classes.

The refund schedule for summer session is published in the summer *Schedule of Classes*.

Unless a student's registration is canceled by the College, no part of the special fees or penalty fees is refunded. No part of the consolidated fee is refunded unless a student's registration is canceled by the College or a student drops all courses before the first day of the term. For additional refund information, contact the Refund Office, 1147 Boylan Hall.

Students who enlist in the armed forces, Peace Corps, or VISTA who have not attended classes long enough to qualify for a grade, but continue in attendance to within two weeks of induction, receive a refund of tuition and all fees, except application fees, as follows: withdrawal before the beginning of the fifth calendar week (third calendar week for summer session) after the scheduled opening date of the session, 100 percent refund; withdrawal thereafter, 50 percent.

Service must be documented with a copy of induction or service orders. No refund is made to a student who has been assigned a grade, whether the grade is passing or failing. To obtain a grade, a student must have been enrolled for approximately thirteen weeks or for five weeks in summer session.

Financing Your Education

Loans, college work-study, scholarships, graduate assistantships, fellowships, and internships are some of the opportunities that may be available to assist you in the financing of your education. Several programs and the offices that administer them are described below. International students should also contact the Office of International Student Services (telephone: 951-4477) for additional information about other financial aid programs for which they may be eligible.

Office of Financial Aid

The Office of Financial Aid (telephone: 951-5051) offers a variety of federal and state financial aid options designed to assist graduate students in financing their education. For most programs, a student is required to:

- be matriculated;
- enroll for at least 6 credits;
- be a U.S. citizen or permanent resident; and
- maintain satisfactory academic progress.

Applications and additional comprehensive information regarding application procedures, eligibility requirements, and rights and responsibilities of recipients may be obtained from the Office of Financial Aid.

In order to apply for federal or state financial aid, the student must complete a Free Application for Federal Student Aid (FAFSA) and file it with the federal processor. Applications may be obtained in the Office of Financial Aid or on-line at www.fafsa.ed.gov.

Students are urged to complete the FAFSA application and submit any loan applications at least five months before the start of the semester for which assistance is desired. This will allow sufficient time for processing by the federal, state, College, and accounting operations.

The following estimates of costs for graduate study for the 2003–04 year may help students determine if they need assistance. The estimates are based on full-time study (12 credits) for New York State residents who do not live with their parents while attending school.

| | |
|---------------------------|----------|
| Tuition and fees | \$ 5,440 |
| Books and supplies | 900 |
| Transportation | 800 |
| Housing (rent, utilities) | 4,200 |
| Food | 2,100 |
| Personal | 2,700 |
| Total | \$16,140 |

Adjustments to a student's budget are possible by submitting to the Office of Financial Aid a request for a budget adjustment accompanied by a more detailed personal budget of the student.

Federal programs

Federal William D. Ford Direct Loan Programs

Most graduate students at Brooklyn College fund their education through a Federal Ford Direct Loan. All graduate students are urged to contact the Office of Financial Aid to determine the current procedures for filing for such a loan.

Federal William D. Ford Direct Loan Programs allow eligible students to borrow money directly from the federal government. These programs include both subsidized and unsubsidized loans.

Under the Federal Ford Direct Loan Programs, a student may borrow up to \$18,500, depending on eligibility, for each academic year of graduate or professional-degree study up to an aggregate of \$65,000, including any loans for undergraduate study. The loans carry a variable interest rate that currently is capped at 8.25 percent.

Repayment of loans begins six months after a student ceases to be enrolled at least half-time (6 credits). For information on deferments and other repayment options, the student should contact the Office of Financial Aid.

Federal Perkins Loan Program

The Federal Perkins Loan Program is a campus-based aid program designed to provide additional assistance to the neediest students. Students who are in good standing and enrolled for at least 6 credits will automatically be considered for a Perkins loan based on the timely completion of the Free Application for Federal Student Aid. Eligible students may borrow up to a total of \$30,000, including undergraduate Perkins loans. Awards are based on the availability of funds and

the financial need of the applicant. The average Perkins loan awarded at Brooklyn College is \$1,500 per year.

Repayment and accrual of interest on the unpaid balance do not begin until six months after a student ceases to be enrolled at least half-time (6 credits). Interest on the loan is 5 percent and repayment may be extended over ten years, depending on the size of the loan. Borrowers who enter certain fields of teaching or specified military duty may qualify for partial or full cancellation of the loan. For more details on repayment, deferment, or cancellation options, contact the Office of Financial Aid.

Federal Work-Study Program

The Federal Work-Study Program is an employment program that pays eligible students in good academic standing an hourly wage for work done for the College or public or other nonprofit agencies. A student may work up to twenty hours a week while enrolled full-time.

Veterans Administration educational assistance

Information about Veterans Administration education benefits under the GI Bill and for post-Vietnam-era veterans may be obtained from any Veterans Administration office and from the Brooklyn College Veterans Affairs and Counseling Center, 0303 James Hall (telephone: 951-5105). Educational benefits are described in VA pamphlet 20-67-1, which may be obtained from the Veterans Administration, Washington, D.C. 20420.

New York State programs

Tuition Assistance Program (TAP)

The New York State Tuition Assistance Program is an entitlement program for students who meet all eligibility requirements. The maximum annual graduate award is \$550; the minimum award is \$100.

To receive payment under this program, a student must be:

1. a U.S. citizen or a qualifying noncitizen,
2. a legal resident of New York State,
3. enrolled full time (12 credits),
4. within the income limits of TAP eligibility,
5. matriculated,
6. in good academic standing.

7. charged tuition of at least \$200 per year; and
8. clear of defaults on any federal student loans.

The New York State Higher Education Services Corporation produces specific award schedules each year. Academic progress and pursuit standards for state awards are printed in the *Schedule of Classes* each semester. Copies may be obtained in the Office of Financial Aid.

Brooklyn College scholarships, awards, and prizes

Scholarships, awards, and prizes are given each year to Brooklyn College graduate students. Friends of the College, including trustees of the Brooklyn College Foundation, Inc., have joined in helping to provide for the College's continuing scholastic excellence through the establishment of endowed funds to support the education of qualified students.

Graduate students are encouraged to apply for scholarship funding. Applications are available beginning in September for the following fall semester. They are available in paper form or may be completed on-line at <http://depthome.brooklyn.cuny.edu/scholar>. The selection of recipients is based on criteria that may include academic performance, financial need, field of study, community service, extracurricular activities, career plans, and/or other stipulations established by the donor.

Visit the Office of Scholarships (telephone: 951-4796; Web site: <http://depthome.brooklyn.cuny.edu/scholar>), for scholarship applications; information about how to apply for scholarships, awards, and prizes; and scholarship listings.

Each year several new scholarships and awards become available. The dollar amounts and availability of scholarships and awards listed are subject to change based on account activity, varying interest rates, and other factors.

Searching for external scholarships

Each day new resources for scholarships are added to the already enormous list of Web sites. You may search for scholarships on the Internet by using such key words as *graduate scholarships*, *fellowships*, or *financial aid*. Searching the Internet for scholarships is free; please check with the Office of Scholarships before

contacting any external scholarship agency that is requesting a fee for its services.

In addition to the Internet, external scholarships may be located through places of employment, religious organizations, community and civic organizations, and libraries.

City University Programs

Graduate assistantships

Graduate assistantships are available in some departments and are awarded to master's degree and doctoral students on the basis of academic qualifications. The duties of graduate assistants may include teaching, research, laboratory work, graduate program administration, and similar assignments as specified by the academic department. Students should contact their graduate advisers about such assistantships.

Fellowships

As a part-time graduate fellow, a student teaches, does research, or engages in other related activities. Some appointments are made possible by college funds, others by research grants from outside agencies. Application should be made to the department of major study.

There are also external fellowship opportunities for support both during the course of study and following completion of the degree or advanced certificate. Such programs include the Fulbright Scholars program. Information on external fellowship opportunities is available in the Office of the Dean of Research and Graduate Studies, 3238 Boylan Hall, 951-5252, and the Office of Research and Sponsored Programs, 2158 Boylan Hall, 951-5622.

Internships

Internships provide valuable work experience and professional contacts. Some internships are paid by the employer. Brooklyn College has a number of stipends to support students during their internship. For more information, contact the Magner Center for Career Development and Internships, 1303 James Hall, 951-5696; e-mail, ssapiro@brooklyn.cuny.edu; Web site, <http://careerbrooklyn.cuny.edu>.

CUNYCAP: A graduate internship program

The City University of New York Counseling Assistantship Program (CUNYCAP) aims to provide graduate students who have CUNY undergraduate degrees with the opportunity to intern in college offices. The program includes more than two hundred students CUNY-wide.

At Brooklyn College, CUNYCAPs work in such offices as Admissions, Undergraduate Studies, Student Development, Athletics, and Student Life. Students receive \$10 per hour for up to twenty hours a week and 6 credits of in-state CUNY tuition. The experience acquired from working within administrative offices is invaluable. The networking and support help students both academically and professionally.

For an application or further information, contact the Office of the Dean for Student Life, 2113 Boylan Hall, or the CUNY Central Office, (212) 290-5709.

Academic Regulations and Procedures

This section outlines academic regulations and procedures. Part I explains how to plan a program of study; part II provides a discussion of registration, grades, and transfer credit; part III describes general academic requirements that must be met to qualify for a degree or advanced certificate; and part IV addresses miscellaneous matters. Administration of academic regulations and procedures is the responsibility of the Office of the Dean of Research and Graduate Studies, 3238 Boylan Hall, 951-5252.

Academic counseling for students in each program is available from the graduate deputy or program head in each department. For general academic advice and information, students may contact the Office of the Dean of Research and Graduate Studies. Students in the School of Education may contact the Office of the Dean of the School of Education, 2111 James Hall, 951-5214.

I. Planning the program of study

At the beginning of course work, and no later than the first week of the semester, all graduate students should prepare a program of study with the appropriate departmental graduate deputy or program head.

In order to keep track of academic program requirements, students should obtain a copy of the curriculum worksheet for their program. Curriculum worksheets for each degree program are available from the Office of the Registrar; from graduate deputies or program heads, and on the Brooklyn College Web site, www.brooklyn.cuny.edu.

Matriculated students are responsible for meeting all requirements in their degree or advanced certificate program. Students should consult the appropriate sections of this *Bulletin* for all official information regarding their degree or advanced certificate requirements as well as general College requirements.

Length of time to complete degree or advanced certificate

A master's degree or advanced certificate must be completed within seven years, beginning with the student's initial registration for graduate courses pertaining to a program at Brooklyn College in any status: matriculated, matriculated with conditions, nonmatriculated, nondegree, or provisional. (See the section "Admission.")

II. Registration, grades, and transfer credit

Registration for courses

Students are notified by mail of dates for telephone/Web registration and where and when they may obtain a *Schedule of Classes*. Students who have not been notified or who have questions should inquire in the Office of the Registrar, 1118 Boylan Hall. You may also consult the College's Web site, www.brooklyn.cuny.edu, for current registration information.

The *Schedule of Classes*, published each semester, contains complete instructions for telephone/Web registration, the College calendar, and other important information.

Students are expected to complete registration during the College's official registration period. It is recommended that students discuss their program of study with their graduate deputy or program head prior to registration. Entering students should bring a copy of their undergraduate transcript. Continuing students should present a copy of their up-to-date curriculum worksheet.

Limitation on credits per semester

Students may not register for more than 15 credits a term in the Division of Graduate Studies; no more than 6 credits may be taken in the summer session. It is recommended that students with full-time employment or other time commitments carry a maximum course load of 6 to 8 credits each semester.

Registration limitations for nonmatriculated students

Nonmatriculated students should seek permission from their department before attempting to enroll in graduate courses. Some graduate courses do not admit nonmatriculated students. Consult with the graduate deputy in the department about your particular circumstances.

Adding, dropping, and withdrawing from courses

A program change consists of adding, dropping, or withdrawing from a course; changing from one course section to another; or making any other alteration after registration is completed. A student may add a course only during the first week of classes, or through the third week with special permission of the department chairperson. Complete information about program changes, including deadlines and penalties, is in the *Schedule of Classes*.

A student may drop one or more courses without academic penalty through the third week of classes and no record will appear on the student's transcript.

Be advised that there is a financial liability for courses dropped during this period, as specified in the *Schedule of Classes*. A student does not incur any financial liability if he or she drops a course prior to the first scheduled day of classes.

A student may withdraw from one or more courses without academic penalty after the first three weeks of the semester until the conclusion of the tenth week. Withdrawals may be made in person or online. A grade of W will be assigned and will appear on the student's transcript. A student who withdraws from a course after the third week of the term does not receive a tuition refund.

A student who withdraws from courses after the first ten weeks may receive a grade of WU, equivalent to failure. In some cases, if the work is satisfactory, a student may be permitted to withdraw from courses without academic penalty. A petition for withdrawal must be filed with the Office of the Dean of Research and Graduate Studies. A student must give valid reasons supported by documented evidence.

Procedures for adding, dropping, or withdrawing from a course are described in the *Schedule of Classes*.

Grades in courses

Students receive a final letter grade in every course. The following grading system is used:

| | |
|-----------|---------|
| A+, A, A- | |
| B+, B, B- | |
| C+, C | |
| F | Failure |

| | |
|-----|--|
| ABS | Absent from final examination or the equivalent |
| AUD | Auditor |
| FAB | Failure, for not resolving ABS grade |
| FIN | Failure, for not resolving INC grade |
| INC | Work incomplete for term |
| NC | No credit, applicable only to specifically designated courses |
| P | Passed, given for acceptable thesis |
| SP | Satisfactory progress in thesis research |
| W | Withdrew officially, no academic penalty |
| WA | Withdrew administrative, immunization requirements not fulfilled |
| WF | Withdrew failing, counts as failure |
| WU | Withdrew unofficially, counts as failure |

A+ grade. The grade of A+ indicates a truly exceptional performance and is rarely given.

INC and ABS grades. A grade of INC (incomplete) denotes failure to complete one or more requirements of a course, other than the final examination. A grade of ABS indicates absence from the final examination.

Resolution of INC grade. A student who receives an INC grade in a course must complete the required work within a period to be set by the instructor but not to exceed one year from the end of the term in which the course was taken. If the student fails to do so, the grade will be changed to FIN (equivalent to an F).

Resolution of ABS grade. A student who receives an ABS grade in a course and who receives permission from the Office of the Dean of Research and Graduate Studies to take a make-up final examination or the equivalent must take that exam by the end of the fall or spring semester following the term in which the course was taken. If the student fails to do so, or if permission is not granted, the grade will be changed to FAB (equivalent to an F).

A fee of \$15 is charged for one make-up examination. The fee for each additional examination is \$5, up to a maximum of \$25 per semester.

Calculation of the GPA

The grade point average is computed on a scale in which A+ or A=4.00; A-=3.70; B+=3.30; B=3.00; B-=2.70; C+=2.30; C=2.00; and F, FIN, FAB, or WU=0. The following illustration shows how a student who

has attempted 24 credits should compute the grade point average.

| Grade | | Value | | Credits Attempted | Total |
|-------|---|-------|---|-------------------|-------|
| A | = | 4.00 | x | 9 | 36.00 |
| A- | = | 3.70 | x | 3 | 11.10 |
| B+ | = | 3.30 | x | 3 | 9.90 |
| B | = | 3.00 | x | 3 | 9.00 |
| C | = | 2.00 | x | 3 | 6.00 |
| F | = | 0.00 | x | 3 | 0.00 |
| Total | | | | 24 | 72.00 |

The GPA is $72.00/24 = 3.00$ on 24 attempted credits.

The following courses, taken in either matriculated or nonmatriculated status, are included in the student's GPA: 1) all courses acceptable for the student's degree or advanced certificate; 2) all 700-level courses in an academic department in which the student has taken at least one course acceptable for the degree; and 3) all 600-level courses in an academic department in which the student has taken at least one 600-level course acceptable for the degree.

Calculation of the GPA when a student repeats a course

When a student completes a course with a grade of C or higher and then repeats that course or its equivalent, no credit is given for the repetition. The grade received for the repeated course will appear on the transcript, preceded by a # sign, but will not be included in the computation of the grade point average.

This applies when a student repeats courses taken at Brooklyn College or when a student completes courses at Brooklyn College that are equivalent to those taken at other institutions and that appear on his or her academic record.

If a graduate student receives a failing grade (F, FAB, FIN, or VVU) in a Brooklyn College course and then repeats that course at Brooklyn College, under the F-Grade Replacement Policy the original failing grade remains on the transcript but is not used in the computation of the scholastic index. A note in the "Comment" section of the transcript will indicate that the GPA is calculated using only the grade from the repeated course. The number of failing credits that thereby may be replaced in calculating the scholastic index shall be limited to 6 credits within a given graduate program. After 6 credits have been used, the

F-Grade Replacement Policy no longer applies. When an F is received and the same course is repeated, and the student earns a grade of C or higher, both grades are used in the computation of the GPA.

Calculation of the GPA when a student changes programs

When a student changes degree programs without having earned a degree in the first program, the GPA shall be calculated in accordance with the requirements of the new program. Only those courses from the prior record that are applicable to the new degree program will become part of the GPA calculation. (See "Change of program" in the section "Admission.")

Calculating the GPA for a nondegree student who later becomes a degree candidate

Courses taken in nondegree status by a student who later becomes a degree candidate shall be included in the calculation of the GPA if the student is permitted to apply one or more of these courses toward the degree. In that case, calculation of the GPA shall include: a) all 700-level courses in an academic department in which the student has been permitted to apply a course toward the degree; and b) all 600-level courses in an academic department in which the student has been permitted to apply a 600-level course toward the degree. Note: Additional information on nondegree status is in the section "Admission."

Calculating the GPA—transfer credit

Grades in courses transferred from other institutions are not included in the calculation of a student's GPA.

Attendance in courses

The instructor may consider attendance and class participation in determining the term grade. A student is not denied credit for a course solely on the basis of the attendance record. It is the student's responsibility to turn in all assignments on time. A student late for class may be excluded from the room.

To obtain a grade, students who enlist in the armed forces, Peace Corps, or VISTA must have been enrolled for approximately thirteen weeks during the fall or spring term or five weeks during the summer term.

Appeal of final grade

A student's transcript stands unless there is legitimate reason to change it. A change is made if an error is

found to have been made in entering a grade or if the instructor agreed in advance to late completion of work and the student received a grade of INC. Once a grade has been assigned and recorded, the instructor may not raise the grade by accepting additional work except when the grade of ABS or INC had been assigned originally.

A student who thinks a final grade is incorrect should consult the instructor immediately after learning the grade. If the instructor does not recommend a change of grade, a student may request a review by the Departmental Grade Appeal Committee or the graduate deputy chairperson, who will convene a review committee. If the committee and the instructor do not come to an agreement on a grade change, the student may make a final appeal to the Faculty Council Committee on Graduate Admissions and Standards within thirty days of notification by filing a petition in the Office of the Dean of Research and Graduate Studies.

Grade appeals to the Faculty Council Committee on Graduate Admissions and Standards must be initiated no later than two years from the end of the term in which the course was taken. Appeals older than two years will not be considered unless there are legitimate and cogent reasons for the student's not taking action sooner.

Transfer credit for courses completed at other colleges

All degree and advanced certificate candidates may apply for transfer credit for graduate courses taken before enrollment at Brooklyn College and may apply to take graduate courses at another college for transfer credit after enrolling at Brooklyn College.

Time limit on transfer credit. Transfer credit is not granted for courses taken more than five years before a student's initial registration, in any status, for graduate courses at Brooklyn College.

Conditions on transfer credit. Courses to be transferred must have been completed with a grade of B or higher (B- is not acceptable) and may not have been applied toward a degree earned previously. The number of transfer credits granted for a course may not exceed the number of credits of an equivalent course at Brooklyn College. A maximum of 6 credits may be accepted as transfer credit for courses for which there are no direct equivalents at Brooklyn College.

Transfer credits for liberal arts and sciences programs.

Students in liberal arts and sciences programs may receive transfer credit for up to 12 credits in graduate courses completed at other accredited graduate institutions if approved by the appropriate department and taken within the specified time limit. Grades in these courses are not included in the calculation of a student's GPA.

Application procedure for transfer credit for courses taken previously at other colleges.

Students applying for transfer credit for courses completed before enrollment at Brooklyn College must file an application, which may be obtained in the Office of Transfer Evaluation Services, 1120 Boylan Hall. Students must include with the application the catalog of the college attended or a photocopy of the course description for each course submitted for transfer credit. An official transcript from the college attended must be forwarded to the Office of Transfer Evaluation Services. The application must be approved by the deputy chairperson or chairperson of the major department. If the course was completed in a department other than the major department, approval of the deputy chairperson or chairperson of the appropriate Brooklyn College department is also required. In teacher education programs, approval of the deputy for graduate studies, School of Education, is required.

Permission to take courses at other colleges for transfer credit.

Students must apply for permission to take courses for transfer credit at other colleges. For CUNY colleges, students may apply in person or online using the CUNY e-permit system. For non-CUNY colleges, students must apply in person. With the application, students must include the catalog of the college they plan to attend or a photocopy of the course description for each course they plan to take. The application must be approved by the chairperson or deputy chairperson of the major department. If the course to be taken is in a department other than the major department, approval of the deputy chairperson or chairperson of the appropriate Brooklyn College department is also required. For programs sponsored by the School of Education, approval of the deputy for graduate studies is required.

Students who take a course at another college that has not been approved in advance may be denied transfer credit for the course.

III. General academic requirements and procedures

This section explains general academic requirements and procedures for graduate degree and advanced certificate programs, including minimum GPA requirement; academic probation and dismissal; comprehensive examination, thesis, language examinations; and applying for graduation. See the chapter "Programs and Courses of Instruction" for degree requirements in particular departments or programs.

Minimum GPA requirement

To receive a graduate degree or an advanced certificate, a candidate must maintain and graduate with a minimum GPA of 3.00. Individual departments may, with the approval of Faculty Council, set grade requirements in certain specified courses, or groupings of courses, accepted toward the degree or advanced certificate.

Academic probation and dismissal

Students who do not maintain a GPA of at least 3.00 are automatically placed on academic probation and notified of this action by the Office of the Dean of Research and Graduate Studies. A student on academic probation must increase his or her GPA to 3.00 or higher within 9 additional credits. Otherwise, the student may be subject to dismissal from the degree or advanced certificate program. Students on academic probation may not take the comprehensive examination, submit a thesis, or earn a degree or advanced certificate unless specific approval is granted by the Committee on Graduate Admissions and Standards. Academic probation applies to all students—both nonmatriculated and matriculated—with a GPA below 3.00.

Academic probation is viewed as a temporary, non-punitive status, the purpose of which is to alert the student that his or her academic standing is in jeopardy. When a student is placed on academic probation, a "STOP" action is taken by the Office of the Dean of Research and Graduate Studies. The probation STOP code bars the student from registration until academic counseling takes place. Once academic counseling has occurred, the Office of the Registrar will be notified by the Dean's Office to lift the probation STOP for purposes of registration. The STOP will remain in place until the GPA in courses creditable to the degree or advanced certificate is increased to 3.00 or above.

When the student is no longer on academic probation, the STOP will be removed and the student will be removed from probation.

These procedures apply to students in all admissions categories.

Comprehensive examination, thesis, and language examinations

In most programs, candidates for the master's degree are required to pass a written comprehensive examination and/or submit an acceptable thesis or major research paper. An oral examination may also be required. The requirements of each program are specified in this *Bulletin*.

When there is a choice between a comprehensive examination and a thesis, a student who fails a comprehensive examination may not then choose to write a thesis, nor may a student who has submitted an unacceptable thesis then choose to take a comprehensive examination.

Comprehensive examination. Students who choose or are required to take a graduate comprehensive examination in their program must be matriculated, have a GPA of at least 3.00, have no outstanding admissions or matriculation conditions, and be scheduled to complete all course requirements for the degree by the end of the semester in which the examination is taken. Departmental exceptions to this rule are stated in the chapter "Programs and Courses of Instruction."

Comprehensive examinations are given in the fall and spring semesters on dates stated in the calendar in the *Schedule of Classes*. Students in liberal arts and sciences programs should file applications to take the comprehensive examination with the Office of the Dean of Research and Graduate Studies, 3238 Boylan Hall. Students in programs sponsored by the School of Education should file with the Office of the Dean of the School of Education, 2111 James Hall.

The opening date for filing an application for a comprehensive examination is the first day of classes of the term in which the examination is to be taken. Applications must be submitted within thirty days of this date. An application must be filed each time a comprehensive examination is taken.

A comprehensive examination may not be taken more than twice without permission of the Faculty Council Committee on Graduate Admissions and Standards.

Thesis. A student in a liberal arts or sciences program who chooses or is required to write a thesis must consult with the graduate deputy before registering for any required thesis research course. A student in a School of Education program who plans to write a thesis must consult with the appropriate program head.

Instructions for writing and filing a thesis may be obtained in the Office of the Dean of Research and Graduate Studies. Some programs provide supplemental instructions.

Unless otherwise noted in the department requirements, a student registers for the thesis research course once. The grade of SP (satisfactory progress) is assigned until the thesis is accepted. Thesis research credit is assigned and a grade of P (pass) is entered on the record when the thesis is accepted.

Language examinations. In some programs, students are required to pass one or more foreign language examinations given by the department or the Educational Testing Service. Language requirements, if any, are stated under a program's "Degree requirements" in this *Bulletin*.

Applying for graduation and the diploma

During the term in which students expect to graduate, they must complete the form "Declaring Your Candidacy for Graduation" and submit it to the Office of the Registrar. The form should be filed no later than the end of the third week of the semester in which graduation is expected. Failure to meet this deadline may delay graduation. Students may also apply for graduation online by clicking on "WebSIMS" on the Brooklyn College Web site or by calling the Office of the Registrar, 951-5491.

All degree and advanced certificate requirements and all forms and procedures related to those requirements must be completed by the end of the term in which the student expects to graduate. *Students who previously filed but did not graduate must file again.* Students must be registered during the semester of expected graduation. If they are not registered, they must register for maintenance of matriculation status and pay the required fee. The maintenance of matriculation fee may not be waived.

IV. Miscellaneous information

Applicable Bulletin

A candidate for a degree or advanced certificate may complete the program requirements as stated in any single *Bulletin* in effect during the time of the student's continuous attendance in a department or program, including any official leaves of absence.

The student may not select particular requirements from different *Bulletins*.

Readmission

After a semester of absence, students who wish to be readmitted to the College must apply in the Office of the Registrar, 1118 Boylan Hall. Those who wish to be readmitted into a different program must apply in the Office of Graduate Admissions, 1602 James Hall.

Maintenance of matriculation

As required by the university, a nonrefundable maintenance of matriculation fee must be paid by students who do not register for courses in a given semester but either a) expect to graduate in that semester; or b) wish to use the academic facilities of the College during that semester. This fee may not be waived.

Official leave of absence

A degree or advanced certificate candidate whose GPA is at least 3.00 may be granted an official leave of absence for up to a cumulative maximum of two years. Official leave of absence forms may be obtained in the Office of the Dean of Research and Graduate Studies, 3238 Boylan Hall, or the Office of the Registrar, 1118 Boylan Hall.

The length of an official leave of absence shall not affect the deadline for completion of the requirements for the master's degree or advanced certificate. The seven-year time limitation includes all periods of nonattendance for any reason except service in the armed services, Peace Corps, or VISTA.

Change of name

A change of name must be made in person, with supporting documentation, in the Office of the Registrar, 1118 Boylan Hall.

Change of address

A change of address may be made in person in the Office of the Registrar, 1118 Boylan Hall, or via the registrar's page on the College's Web site, www.brooklyn.cuny.edu.

Veterans' benefits

Veterans claiming benefits must complete application forms each term after registration in the Veterans Affairs and Counseling Center, 0303 James Hall.



Academic Resources and College Facilities

Libraries

Brooklyn College Library

The newly expanded and renovated Brooklyn College Library is the intellectual and creative commons for all those who participate in the life of the College, serving as both the literal and figurative crossroads of the campus. Much more than a traditional academic library, it is a comprehensive and complex information center that includes a library of substantial physical and digital collections; the College archives; a new media center; and both academic and administrative computing, all brought together in a single state-of-the-art building.

The library provides integrated information support for the College's instructional and research programs. The physical collections total more than 1,300,000 volumes, 4,200 journals, and about 25,000 audiovisual units (sound recordings, videotapes, and DVDs). The substantial digital collections include 15,000 electronic subscriptions and works of reference as well as several thousand electronic books. The library's collections are represented in CUNY+, the online catalog of the City University of New York.

The new library is the largest to rise within the City University of New York in many years as well as one of the largest to be built in the New York City metropolitan area. Its numerical portrait is an impressive one: 277,650 square feet or 6.5 acres of space, 2,317 student seats, 21.5 miles of shelving, 22 group study rooms, 5 computer classrooms, and more than 500 computers for student and faculty access. Four of every ten seats in the library include either a fixed computer or a net tap to which users may attach their own laptops.

The library's large windows and double-height spaces bring light throughout the building. Art, much of it by Brooklyn artists, fills the building's walls. The library offers students a wide variety of seating areas, including traditional tables and carrels, lounge chairs, laptop spaces, group study rooms of all sizes, large and small reading rooms, and even window seats on each landing.

of the great octagonal stair tower. Terrazzo, the warmth of wood, and rich colors complete a handsome milieu conducive to study and research.

The first floor includes the reserve reading room, the circulation and exhibition gallery, the reference collection, and the double-height Lily Pond Reading Room. The Archives and Special Collections and a theater complete this floor. On the lower level, students and faculty can find an extensive collection of periodical literature and government publications. The second floor accommodates music collections, the New Media Center, and the La Guardia reading room, with its cathedral ceiling and WPA murals, *Famous Libraries of the World*. Academic Information Technologies is located on the third floor; here faculty can create new technology-assisted teaching tools in the Faculty Training & Development Laboratory. The library's physical collections, student seating, computers, and group study rooms are scattered throughout the building on every floor.

Brooklyn College librarians provide extensive reference service, both in person and online, to faculty and students. An active library instruction program provides training in the use of the library's physical and digital collections. The collections support both undergraduate and master's-level study in the humanities, social sciences, and sciences; they are especially strong and research-oriented in history and American and British literature. The library also holds research-level collections in chemistry, biology, and computer science as well as important archival and special collections, among which are the Brooklyniana Collection and the Manuscripts Collection.

Walter W. Gerboth Music Library

Named in memory of its principal founder and first librarian, respected teacher and scholar Walter W. Gerboth, the music library, located on the second floor of the Brooklyn College Library, offers facilities for music study, research, and listening.

The collection comprises scores, collected works, phonograph recordings, tapes, compact discs, music and dance video cassettes, electronic resources, playback equipment for on-site listening, and general and specialized books about music and dance as well as a fine selection of periodicals and yearbooks. Subject strengths lie in American music and performance scores.

The collection is complemented by that of the Institute for Studies in American Music, 415 Whitehead Hall.

Specialized libraries

A number of smaller, specialized libraries are housed within academic departments and centers. These include the Meier Bernstein Art Library (Art), Costas Memorial Classics Library (Classics), Nathan Schmukler Investment Library (Economics), Boyd V. Sheets Memorial Library (Speech Communication Arts and Sciences), and S. Eugene Scalia Memorial Library (Center for Italian American Studies). For more information, refer to specific department chapters in this *Bulletin*.

Centers and institutes

Africana Research Center 3107 James Hall, 951-5597

The center promotes research in political and economic problems of interest to Africana studies scholars and the African American community.

Applied Sciences Institute 3238 Boylan Hall, 951-5252

The Applied Sciences Institute (ASI) comprises seven research institutes at the College: Applied Vision, Aquatic Research and Environmental Assessment, Electrochemistry, Feeding Behavior and Nutrition, Neural and Intelligent Systems, Semiconductor, and Surfactant Research. The institute's purpose is to promote significant funded research in a broad range of applied sciences, promote economic development through interaction with local and regional industry, and create educational opportunities—including those for women and minorities—that help increase the technological and scientific workforce needed for the economic health of the city.

The research institutes of the ASI are also involved in a number of major universitywide economic development research programs, including the CUNY Center for Advanced Technology for Ultrafast Photonic Materials and Applications and the Higher Education Applied Technology Program, both of which are funded by New York State.

Directors of the institutes are scientists of international stature who have demonstrated records of attracting substantial grants and contracts from both government and industrial sources. The institutes draw on the skills and efforts of faculty and postdoctoral research

associates as well as graduate and undergraduate students at the College.

In addition to the supporting formal institutes, the ASI seeks to promote and encourage other applied research at the College in such fields as information systems and computational science, health and nutrition, and aquaculture, among others. Programs leading to an M.A. degree through applied sciences laboratories are offered through the departments of biology, chemistry, geology, health and nutrition sciences (including an M.P.H. degree), physics, and psychology to students with appropriate undergraduate credentials.

Archaeological Research Center 3307 James Hall, 951-5507

The center supports excavations in Europe on sites dating from early Neolithic to medieval times. The center also supports and directs excavations in New York. Evidence is recovered and studied from these and other digs in which members and students participate. The center publishes its findings.

Center for Auditory Research 4146 Boylan Hall, 758-8118

The Center for Auditory Research explores important research topics to enrich the knowledge base in audiology and hearing science, including brain plasticity as related to hearing, treatment of middle-ear fluid and hearing loss, and other issues of contemporary interest. The center also conducts seminars and workshops related to various state-of-the art topics in audiology and hearing science.

Center for Child and Adult Development 1105 James Hall, 951-5876

The center is sponsored by the graduate program in school psychology of the School of Education. The center serves the community and professionals in the fields of education and psychology by providing, through conferences and symposia, information on mental health practices and recent research relevant to child and adult development.

Center for Computer Music 250 Gershwin Hall, 951-5582

The Center for Computer Music (BC-CCM), part of the Conservatory of Music, is one of the oldest computer music centers in a public institution in the country. This research and creativity center brings together computer scientists and artists working in the discipline. It

promotes musical and interdisciplinary projects using diverse computer applications and hardware. The center's studios include a sixteen-track digital recording studio, with mixdown capabilities, and several multispeaker configurations including 5.1 and 8.2. It also has a variety of high-quality microphones, mixers, signal processors, and speakers, and it supports Max/MSP, Kyma, Protools, and other applications. The center's control room is linked to a medium-sized room for solo and chamber music recordings and to a fully equipped five-hundred-seat theater for larger ensembles. Through the Conservatory of Music, the center offers several courses in composition with technology.

BC-CCM sponsors concerts, lecture series, the International Electro-acoustic Music Festival, and an active visiting artists program. The center also produces a CD featuring compositions by students and faculty on an annual basis.

Center for Diversity and Multicultural Studies 3309 James Hall, 951-5766

The Center for Diversity promotes a dynamic campuswide multicultural academic environment. Diversity policy initiatives, faculty development, public forums, publications, internships, community service, and student clubs, including the Multicultural Action Committee, facilitate the multicultural objectives of the College.

Center for Health Promotion and Research 4145 Ingersoll Hall, 951-5565 or 951-5026

The Center for Health Promotion develops, coordinates, and promotes partnerships between the faculty and community-based organizations to improve the health of Brooklyn residents. The center organizes workshops, seminars, and conferences on health and nutrition topics. It provides opportunities for students to learn through volunteer work and to serve the community through fieldwork and independent studies on health promotion.

Center for Human Relations 5309 James Hall, 951-5981

It is the mission of the center to initiate and encourage empirical scientific research and community education concerning current social issues in the area of human and intergroup relations. The work of the center focuses on intergroup conflict, perceived injustice, sexual harassment, sexual objectification, and authentic communication and living skills.

**Center for Italian American Studies
3122 Boylan Hall, 951-5070**

The center was established to stimulate interest in Italian American life and explore the social, political, and cultural attitudes and behavior patterns of Italian Americans. The center promotes programs and activities of mutual interest with the Italian American community. Graduate and undergraduate students are welcome to participate in the center's research projects. Counseling and training workshops are among the services offered.

The S. Eugene Scalia Memorial Library is located in the center. It is a reference library of more than nine hundred volumes.

**Center for Latino Studies
1204 Boylan Hall, 951-5561**

The center, an extension of the Department of Puerto Rican and Latino Studies, serves students, faculty, and the community by stimulating interest in Puerto Rican and Latino affairs. It sponsors conferences, workshops, lectures, seminars, internships, and noncredit courses. It engages in curricular development and research on topics related to the Latino experience and fosters educational exhibits as well as artistic and cultural expression. The center maintains a facility for special collections, publications, and research.

**Center for Nuclear Theory
2157 Ingersoll Hall, 951-5813**

Research in theoretical nuclear physics is supported by the center, whose members serve as mentors for graduate students in the area of nuclear theory.

**Center for the Study of World Television
304 Whitehead Hall, 951-5555**

The center is affiliated with the Department of Television and Radio. The goal of the center is to develop a better understanding of the use of national and international policy for the constructive application of television and related media to the social, cultural, political, and economic needs of various countries and regions. The center has conducted and published research, sponsored lectures, developed databases on aspects of international television, and hosted visits from broadcast executives from four continents in conjunction with the U.S. Department of State's International Visitor Program.

**Children's Studies Center
3602 James Hall, 951-3192**

The center, founded in 1997, aims to promote a unified approach to the study and teaching of children and youth across the disciplines in the arts, humanities, natural and social sciences, medicine, and law. It is the mission of the center to participate in national and international research efforts on behalf of children and youth; to help governmental and advocacy agencies, as well as community-based organizations, formulate implementation strategies for helping children and youth; to initiate interdisciplinary symposia, concerts, broadcasts, exhibitions, and films in partnership with arts institutions; and to develop resource and information materials for assisting undergraduate and graduate students in the exploration of careers related to children and youth services.

**Ethyle R. Wolfe Institute for the Humanities
2231 Boylan Hall, 951-5847**

The Ethyle R. Wolfe Institute for the Humanities supports research, writing, teaching, and public discussion in the humanities and human sciences at Brooklyn College. It seeks to promote faculty initiatives and to ensure excellence in scholarship in these areas. Toward fulfillment of this mission, the institute presents public lectures, symposia, and conferences as well as interdisciplinary faculty study and discussion groups; it offers full-year research fellowships in the humanities to Brooklyn College faculty, collaborates with several undergraduate honors programs, and brings to the Brooklyn College campus leading scholars in the humanities and human sciences.

**Infant Study Center
4311 James Hall, 951-5033 or 951-5610**

The center conducts grant-supported research studies on visual and perceptual development in infants and young children. Aspects of both normal and abnormal development are studied. A major interest of the center is the development of new methods of assessing visual functioning in infants and young children. Graduate and undergraduate students assist in research.

Institute for Studies in American Music 415 Whitehead Hall, 951-5655

The Institute for Studies in American Music (ISAM), part of the Conservatory of Music, is a research center dedicated to the study, preservation, and presentation of a wide spectrum of American music, including jazz, popular, folk, and art music.

ISAM sponsors conferences, symposia, and concerts. In recent years, the institute has focused on contemporary composers in the greater New York area and on musical traditions of immigrant communities surrounding the College.

The institute has published more than thirty monographs on various topics in American music as well as bibliographies, discographies, and a semiannual newsletter. Its research collections, including books, periodicals, scores, and recordings, are open to students and scholars by appointment.

Special facilities

Art Gallery at Brooklyn College Brooklyn War Memorial, 195 Cadman Plaza West

The gallery, which is associated with the Art Department, mounts several important exhibitions of national and international art each year as well as exhibitions of folk art, history, and local lore. They are open to the borough, as well as the College community, and draw visitors from throughout the New York area. Its major source of support is the Donald E., '40, and Edith Peiser Fund.

Brooklyn Center for the Performing Arts at Brooklyn College (BCBC) 154 Gershwin Hall, 951-4600

Brooklyn Center is a world-class performing arts facility that is an invaluable resource for both the campus and the wider community. The center includes the George Gershwin Theater (capacity, 475), Walt Whitman Hall (capacity, 2,400), the Sam Levenson Recital Hall (capacity, 160), and the New Workshop Theater (capacity, 100), a studio facility.

During its annual season, Brooklyn Center offers eight outstanding performing arts series and a number of special events representing a wide variety of cultural traditions. Through such series as the World of Dance, Celebrities, Broadway, Virtuoso, L'Chaim, Caribbean Celebration, and FamilyFun, the center presents world-

renowned orchestras, soloists, dance companies, musical theater, and popular entertainers. More than forty thousand young people attend the center's popular SchoolTime series each year.

More than three hundred music and theater events are presented at the center, free or for a small fee, throughout the academic year by students and faculty members of the Brooklyn College Conservatory of Music and the Department of Theater. Performances include recitals, concerts by the Conservatory Orchestra and other Conservatory ensembles, Mainstage productions and thesis productions by the Department of Theater, and fully staged productions by the Brooklyn College Opera Theater.

The center's box office is in the lobby of the George Gershwin Theater. Program information may be obtained by calling the box office, 951-4500, or by visiting the Web site, www.brooklyncenter.com.

Special facilities for the performing arts

The Conservatory of Music maintains an extensive library of books and scores; playback facilities for records, tapes, compact discs, and CD-ROMs; and a large collection of musical instruments for instructional use. The Center for Computer Music (described above) is one of the best in the United States.

The Theater Department provides facilities containing two stages, three acting studios, a directing studio, makeup rooms, lighting and carpentry areas, a costume construction workshop, and instructional audiovisual equipment as well as a special library and reading room for graduate theater majors.

Rehearsal and practice studios for the Conservatory of Music and theater workshops and classrooms for the Department of Theater are in the Brooklyn Center for the Performing Arts at Brooklyn College. Dance studios are in Roosevelt Hall and Roosevelt Hall Extension.

The Brooklyn College Preparatory Center for the Performing Arts, established in 1978, is the precollege component of the Conservatory of Music. The center offers a community program with classes in music, theater, and dance for children three to eighteen years of age and for adults. The Prep Center's Suzuki Program for violin and cello is among the largest and most successful of New York City's Suzuki schools.

Student and faculty recitals are held regularly on Saturdays in Sam Levenson Recital Hall. The center offers outreach services to public schools and works with many community-based organizations in Brooklyn. It is open to all who seek high-quality training by professional artist teachers, from beginners to those preparing for college-level work. Information on admission and tuition is available by calling 951-4111.

The Walter W. Gerboth Music Library offers facilities for music study, research, and listening. For more information, see the section "Libraries."

Center for Assistive Technology 4125 Boylan Hall, 951-3193

The Center for Assistive Technology provides clinical services, including comprehensive identification, evaluation, and treatment, for children and adults with developmental and acquired disabilities who require assistive technology. Through augmentative communication techniques, seating and mobility, and computers, the center helps individuals with severe disabilities to develop communication, writing, and mobility skills. For students majoring in speech-language pathology or education, the center provides professional training in clinical practices as well as in the use of state-of-the-art devices, peripherals, adaptations, and software. Facilities at the center include treatment rooms and a demonstration area with one-way vision windows for observation. The center is a collaboration between the Brooklyn College Speech-Language Pathology and Audiology Program and Premier HealthCare, a member agency of the Young Adult Institute, which serves individuals with disabilities throughout the New York City metropolitan area.

Center for the Study of Religion in Society and Culture 3231 Boylan Hall, 951-3121

The Center for the Study of Religion in Society and Culture (RISC) conducts funded research projects on religious topics, providing faculty members with the infrastructure for conducting such research and publishing its results. It engages students in these efforts and provides administrative resources for the Program of Studies in Religion. RISC also serves as an archive for the survey data previously collected by the Program for the Analysis of Religion Among Latinos/as (PARAL). RISC maintains a special focus on the social and civic functions of religion within the borough of

Brooklyn. The center is strictly nondenominational and includes multiple faith traditions within its scope.

Computer Language Instruction Center 4311, 4315, and 4316 Boylan Hall, 951-5231

The Department of Modern Languages and Literatures runs the Computer Language Instruction Center (CLIC), a technologically up-to-date facility comprising a computer laboratory, a multimedia room, and a teaching laboratory.

The computer laboratory is equipped with twenty-four PCs connected to the Internet. The computers have specialized software for the study of foreign languages, including spell-checking and grammar-checking in various languages. The multimedia room is equipped with a large television monitor for video and film screening, an Internet-connected computer, a projector, and a pull-down screen. The teaching laboratory is used for instruction in courses with a networked component. It is equipped with a networked computer, a large screen, and a projector. It also features ten PCs connected to the Internet for student use during class time.

CLIC has a large holding of videotapes and audiocassettes that may be borrowed by students for use outside the lab.

Graduate Center for Worker Education 99 Hudson Street (Manhattan), (212) 966-4014

The Graduate Center for Worker Education is a full-service off-campus graduate program with state-of-the-art distance learning, videoconferencing, and computer lab facilities. The labor-oriented center participates in master's degrees in urban policy and public administration through the Department of Political Science and in community health through the Department of Health and Nutrition Sciences.

Information Technology Services Fourth floor, Brooklyn College Library Computer Center, 951-5861 Computer Labs, 951-5787

Brooklyn College's computing infrastructure is one of the most advanced in CUNY and is continually updated to keep pace with evolving standards. These systems support applications in all disciplines and are also used to enable students and faculty to easily access critical administrative data. Information Technology Services provides support to the College's students, faculty, and administration through the Help Desk and on site.

All students may use the College's many public-access computer labs, extensive Web and distance learning systems, and network of BCLink digital information kiosks. In addition, every registered student is provided with an advanced Microsoft Exchange e-mail account that may be accessed on or off campus via the Internet.

Brooklyn College maintains several large-scale public-access computing facilities, supplemented by departmental discipline-specific labs and electronic classrooms. Overall, more than one thousand computers are available to students. Facilities include the Atrium and Wolfe computer labs, the library PC clusters, the Morton and Angela Topfer Library Café in Whitehead Hall, the SUBO Computer Corner, and the Learning Center in Boylan Hall. The Atrium and Wolfe labs, with 275 computers, are open fifteen hours each day, seven days a week. The Library Café, with fifty computers, is open twenty-four hours a day, seven days a week. All campus computers are linked via high-speed networking to campus resources, the Internet, and CUNY's central mainframe facilities.

The College supports various computing platforms, including Windows (Wintel), Apple MAC, and SUN Unix systems linked to Novell, Windows NT, and Unix servers. All of these are available at public-access facilities and are used in various instructional contexts.

Brooklyn College also maintains a sophisticated videoconferencing and multimedia facility that is used in many courses for distance learning and facilitates interaction with students from other CUNY colleges as well. A significant percentage of courses are taught via the Web or use the Web as a major resource.

An extensive inventory of adaptive computer equipment enables students with disabilities to utilize the computer resources. These facilities and associated technical support are concentrated in the Atrium Computer Lab, the library, and the Mamie and Frank Goldstein Resource Center in the Personal Counseling area.

The Brooklyn College Web site, www.brooklyn.cuny.edu, contains course descriptions, the *Schedule of Classes*, departmental information, and a directory of faculty, staff, offices, and Web pages. Students may view their transcripts and grade reports, find out how many seats are open in course sections, apply for scholarships, calculate GPAs, and view campuswide event calendars.

Brooklyn College students and faculty may also use the computing facilities provided by the CUNY/CIS central computing center, 555 West 57 Street, New York, New York. Dial-up and network access to mainframe resources and software applications may be arranged.

Learning Center

1300 Boylan Hall, 951-5821

The Learning Center offers all Brooklyn College students tutoring and technical support for courses across the curriculum. Trained peer tutors work with students on assignments in writing, mathematics, science, and most core and gateway courses, including computer and information science, economics, and foreign languages. Help is available for the mechanics of writing, outlining, revising, and developing a format for essays, term papers, and laboratory reports. Tutors also help students understand lectures and texts, assist in doing research, and suggest methods for studying. Tutors regularly schedule group reviews before midterms and final examinations, and CPE previews are offered each semester to help students prepare for the CUNY Proficiency Examination. Students who visit the Learning Center find a handsome and comfortable environment with computers, reference materials, and worksheets available for their use. The center is open every weekday and some evenings. Students may schedule appointments for regular weekly meetings to work on their writing skills, or they may drop in to work with a tutor either individually or in small groups.

Office of Research and Sponsored Programs

2158 Boylan Hall, 951-5622

The goal of the office is to increase the external funding base of Brooklyn College research and teaching activities to further its public service mission. Support services are provided for faculty and staff who are engaged in sponsored programs or who are seeking external support for special projects and research. The office identifies funding opportunities for research, training, and other projects; assists in the preparation, review, and submission of proposals; negotiates grant and contract awards; and facilitates the administration of funded projects and interaction between Brooklyn College and the Research Foundation of The City University of New York.

**Speech and Hearing Center
4400 Boylan Hall, 951-5186**

The center provides quality clinical services on a fee-for-service basis for clients with such communication disorders as articulation/phonology, language, voice, fluency, and hearing disabilities. It provides full evaluations and remediation, including the dispensing of hearing aids. Speech-language pathology and audiology majors receive professional training with broad-based clinical experience, well integrated with academic preparation. Facilities include a complex of sound-treated rooms that allow students to observe diagnosis and treatment of clients with communication disorders in observation rooms with one-way vision windows; recording and videotape equipment; and soundproof, double audiometric booths containing the latest instrumentation for audiological testing and research.

**Television Center
018 Whitehead Hall, 951-5585**

The center provides television production and post-production facilities and technical support for the Department of Television and Radio. Studio facilities are also available for rental by private clients. Students enrolled in the department's master of fine arts program are employed by the center as part-time college assistants. They participate in all aspects of television production and provide support for center activities. This blending of the academic experience and the workplace proves to be invaluable to the student.

The center's facilities include a broadcast-quality color studio; professional, nonlinear editing facilities; radio production suites; and broadcast-quality digital field-production equipment.

**Morton, '59, and Angela Topfer Library Café
First floor, Whitehead Hall, 951-4672**

The Library Café, open twenty-four hours a day, seven days a week, features fifty networked computer workstations in both PC and Macintosh environments. Each has the latest versions of multiple software packages and Internet browsers. Notebook computers, plug-ins for personal laptops, and high-quality laser printers are available. There are three group-study rooms and two areas for individual study or reading. Modeled on the style of Internet cafés, the sleek, state-of-the-art facility with comfortable ergonomic seating is a popular site for computing, study, student interchange, or merely having a sandwich, coffee, or

soda. Large windows, facing a landscaped courtyard, provide natural light. The snack bar is open from 9 a.m. to 7 p.m.

**Women's Center
227 Ingersoll Hall Extension, 951-5777**

The center serves women on campus and in the community. It sponsors noncredit programs, workshops, and lectures on a broad variety of women's issues, including career and life planning.

It offers referrals, if requested, to therapists, lawyers, and social service agencies and provides an extensive network of resources for women. The center, which has a drop-in lounge, is open to students, faculty and staff members, and community residents, Monday through Friday, 9 a.m. to 5 p.m.



Counseling and Campus Services

Counseling

Drug and alcohol abuse counseling and information

0203 James Hall, 951-5363

Professional help is provided through individual and group counseling. Free, confidential services are available to students, staff, and faculty members as well as their families.

Health Programs

951-4266 or 951-4505

Information is available on student health issues and wellness events, student immunization requirements, and reduced-cost health insurance.

Lay Advocate Program (legal counseling)

139 Ingersoll Hall Extension, 951-5360

The program offers members of the Brooklyn College community basic legal information, counseling by an attorney, and referral to legal-service agencies.

Information on College rules and student rights is given by trained undergraduate volunteers supervised by an attorney. Academic credit may be received for lay advocate internship work through urban fieldwork courses (Political Science 75.5 and 75.6).

Magner Center for Career Development and Internships

1303 James Hall, 951-5696

Free services include career counseling, internship preparation and placement, graduate and professional school preparation and application advisement.

Workshops on job search techniques include help with résumé writing; referrals to full-time and part-time jobs, employment recruiters, internships, and alumni advisers; information on the labor market and occupations; and interest assessment. For more information, check the Web site at <http://career.brooklyn.cuny.edu>.

Peer counseling programs

Peer counselors are students who are trained and supervised by professional counselors. For information, call the Office of the Dean for Student Life, 951-5352.

Personal counseling **951-5363**

Counseling services include individual and group counseling, short-term therapy, crisis intervention, referrals to off-campus services, and a range of life skills workshops for test anxiety, stress management, and assertiveness training. All services are free and confidential. For more information, visit the Web site at <http://pc.brooklyn.cuny.edu>.

Services for international students

951-4477

Counseling and other special services are provided for international students enrolled with F-1, B-1, or B-2 visas, including processing of BCIS and other forms for status change, travel, employment, practical training, transfer of funds, and spouse/dependent visas. Apply at least one week in advance for processing of these requests. International students should report to this office upon arrival and send notice of any change of address or status. For more information, visit the Web site at <http://depthome.brooklyn.cuny.edu/career/guide.htm>.

School of Education

Office of Student Advisement and Undergraduate Certification

2105 James Hall, 951-5447 or 951-5820

The office provides information on academic requirements for undergraduate and graduate programs in the School of Education as well as requirements for undergraduate teacher certification.

School of Education

Office of Student Advisement for Graduate Programs in Teacher Certification

2309 James Hall, 951-5305

The office provides information on advisement and academic requirements for graduate programs in teacher certification in early childhood, childhood, adolescence education, and special subjects.

Veterans Affairs and Counseling Center

0303 James Hall, 951-5105

The center provides orientation counseling; assistance with admission procedures and academic planning; tutoring; and liaison with the Veterans Administration and other government agencies. The center also provides information on federal and state benefits.

Peer counselors help veterans file applications for the GI Bill and other educational benefits.

Women's Center

227 Ingersoll Hall Extension, 951-5777

The center provides a variety of services for women: referrals to therapists, lawyers, social service and counseling agencies; and information about new career opportunities, professional women's networks, scholarships, and grants. Services are available to students, faculty and staff members, and community residents, Monday through Friday, 9 a.m. to 5 p.m.

Y.E.S.S.

**(Yes! to Evening Student Services) Center
Boylan Hall Cafeteria, 758-8150**

The Y.E.S.S. Center was designed for students who are unable to file their paperwork on campus during regular business hours. Open Monday through Thursday, 4 to 8:30 p.m., and the first weekend of every month, the center assists students with registration, tuition payments, transcripts, scholarships, and many other services. For more information, visit the Web site, www.brooklyn.cuny.edu/bc/yess/.

Center for Student Disability Services

138 Roosevelt Hall, 951-5538

The Center for Student Disability Services serves as the primary program for ensuring the successful integration of students with disabilities into the Brooklyn College community and for making determinations of what will constitute appropriate, reasonable accommodations.

Services for students with disabilities registered in the program include preadmission interviews; priority registration; individual counseling; auxiliary aids (readers, writers, laboratory assistants); individual testing accommodations and arrangements; advocacy; and direct liaison with offices providing College services.

S.O.F.E.D.U.P. (Student Organization For Every Disability, United for Progress) is the campus organization through which motivated students channel their abilities into progressive action.

A guide to accessible campus facilities appears in the chapter "Accessible Facilities for Persons with Disabilities."

Mamie and Frank Goldstein Resource Center.

The center offers services for students with disabilities who require adaptive equipment for studying, taking tests, tutoring, and other academic activities. A wide

variety of equipment and software is available, including a Dragon dictate speech-recognition system, a scanner with screen-access software, a text-to-speech synthesizer, magnification systems, CCTV systems, seventeen-inch VGA display monitors, braille and large-print keyboards, and a braille printer.

Computers allow many documents to be accessible in alternative formats, such as braille print or vocalized text.

Health Clinic

114 Roosevelt Hall, 951-5580

The Brooklyn College Health Clinic provides students with evaluation and treatment of acute and chronic medical conditions, including sore throats, headaches, skin rashes, sexually acquired infections, anemia, and asthma. The clinic also offers gynecological care, including family planning options and colposcopy. Wellness checkups, evaluation and counseling on smoking cessation, blood pressure, nutrition, and other health issues are also provided.

Care is delivered by nurse practitioners and physician assistants who have advanced, specialized training in medical diagnosis and treatment. Services are strictly confidential.

There is no charge for visits to the Health Clinic. Several lab tests are done on site free of charge, and most lab tests that require outside analysis are available at greatly reduced fees. Many medications are available at low cost or for free.

Campus and Community Safety Services

0202 Ingersoll Hall

Regular services, 951-5511

Emergency services hot line, 951-5444

Patrols. Security personnel patrol the campus twenty-four hours a day, on foot and in security vehicles, to ensure the safety and well-being of all students, faculty and staff members, and visitors on campus and on the streets bordering the campus.

Emergency assistance call stations

(EA stations). Stations for emergency use are located on all floors, in stairwells, and in bathrooms of all buildings on campus. The Office of Campus and Community Safety Services may be contacted directly by following instructions at the EA station. All incidents

that occur on campus, including such misdemeanors as thefts and vandalism, should be reported promptly to the office.

Escort service. Escorts (telephone: 951-5511) will be provided by security personnel to campus parking lots and nearby public transportation (bus and subway) for students and faculty and staff members who request them. Requests should be made about twenty or thirty minutes before an escort is needed. Security shuttle service operating on Campus Road provides transportation to and from local bus stops, subway stations, and the municipal parking lot from 7 a.m. to 11:30 p.m. daily. A van is also available for students and staff members with disabilities.

Bicycle rack. Security personnel maintain a bicycle rack inside the gate at Campus Road and East 27 Street during the hours that the campus is open. The enclosure may be used by students and faculty and staff members upon presentation of a valid Brooklyn College photoidentification card. There are also two racks outside Ingersoll Hall on Bedford Avenue. This location is not staffed by security personnel. Bicycles must be properly secured to the rack by sturdy chains or locks. Overnight storage of bicycles is not permitted.

Photoidentification. All students and members of the faculty and staff are requested to carry a Brooklyn College photoidentification card on campus and are required to wear it on campus when the College is closed. The card must be displayed in order to gain access to the campus, the library, and the Student Center. Photoidentification services, located in 0201 James Hall, are open Monday through Thursday, 9 a.m. to 7 p.m.; Friday until 1 p.m.; and for extended periods during registration.

Students who wish to enter or remain on campus after it is closed must obtain written permission from the Office of the Dean for Student Life or have a twenty-four-hour photoidentification card.

Annual security guide. The Office of Campus and Community Safety Services is in compliance with the Jeanne Clery Act (formerly the Campus Security Act of 1990) and publishes an annual security guide prior to October 31. The guide includes campus crime statistics and may be accessed on the Internet at www.brooklyn.cuny.edu/bc/offices/security. A campus

log of reported crimes is open to public review in the office.

Emergency medical service hot line 951-5858

Emergency medical assistance is provided by the Student Volunteer Emergency Medical Squad, 021 Ingersoll Hall Extension. Ambulance facilities are also provided.

Information Services

BCR

306 Whitehead Hall, 951-5555

Brooklyn College Radio broadcasts weekdays (with occasional weekend programming) on campus on 1090 AM and on the Web at www.brooklynradio.org. BCR features news, public affairs, talk, sports, and a variety of music.

Brooklyn College Web site www.brooklyn.cuny.edu

The College's Web site provides a wealth of useful information for prospective and current students, including course descriptions, schedule of classes, and departmental information. Students may use the Web facilities to view their transcripts and grade reports, find out how many seats are open in course sections, apply for scholarships, calculate GPAs, and view campus news and event calendars as well as a directory of faculty, staff, offices, and Web pages.

General information line 951-5000

The campus switchboard is in operation Monday through Thursday, 8 a.m. to 7 p.m., and Friday, until 5:30 p.m. During off hours, an auto attendant guides callers through individual departments. Specific information, including a directory of telephone numbers, may be accessed from menus.

Information Booth 1139A Boylan Hall, 951-4748

The Information Booth offers assistance to students, staff, and campus visitors. A staff of trained student assistants provides information on campus services, maps of the campus, and directions to campus offices. The booth is open Monday through Thursday, 8 a.m. to 8 p.m.; Friday, until 4 p.m.; and Saturday and Sunday, until 4:30 p.m. Information staff are also available via live chat on the College Web site.

Electronic information kiosks

Kiosks are located in nearly all buildings throughout the campus. The computerized kiosks provide access to Web-based information about campus facilities, services, and events.

E-mail services

E-mail is available to all registered Brooklyn College students. Through the duration of their enrollment, students may send and receive e-mail from classmates, professors, and anyone off campus.

Students may obtain their e-mail address on-line through the Brooklyn College Web site; in person at the Atrium Computer Lab, 1306 Plaza Building; or by calling the support line, 677-6180.

Housing referral

0203 James Hall, 951-5363

Housing and roommate referrals and information are provided. For more information, visit <http://pc.brooklyn.cuny.edu/housing.htm>.

Office of College Information and Publications

2153 Boylan Hall, 951-5163

The office produces such official College publications as the Brooklyn College *Undergraduate Bulletin* and *Graduate Bulletin*, *Schedule of Classes*, *Brooklyn College Magazine*, *Student Handbook*, *Faculty Handbook*, *Core Curriculum Bulletin*, *Commencement Program*, and the student newsletter, *Around the Quad*, as well as a variety of brochures, flyers, and posters for recruitment, special academic programs, cultural events, fundraising, and alumni activities. The office maintains the College Web site Photo Album, covering events on campus.

Newspapers, literary magazines

Newspapers written and edited by Brooklyn College students may be obtained in the lobbies of campus buildings. *Brooklyn Review* and *Riverrun*, literary-arts magazines, are published annually by students in the fine arts degree programs in creative writing.

Campus services

ATM banking

An automated teller machine (ATM), installed by HSBC Bank, is located adjacent to the Information Booth, 1139A Boylan Hall. Open twenty-four hours a day, the ATM performs all transactions except deposits. The service is free of charge to users with HSBC accounts,

but fees are charged to those who have accounts at other banks and whose own bank charges for ATM use.

Three additional Money Marketing ATMs are located in the lobby of Ingersoll Hall and on the first floors of Roosevelt Hall and the Student Center. There is a fee to use these machines, plus an additional fee for those whose bank charges for ATM use.

Brooklyn College Bookstore

0400 Boylan Hall, lower level, 951-5150; 434-0333

The bookstore stocks new and used required and recommended books; computer software and supplies; greeting cards and magazines; school and art supplies; Brooklyn College clothing; and snacks.

Food services

College dining facilities are located on the lower level of Boylan Hall. These include cafeteria service, a kosher dairy bar, a gourmet coffee bar, and a buffet service dining room. The main cafeteria offers salads, soups, pizza, a delicatessen, grilled foods, international specialties, beverages, and desserts. Kosher service includes hot and cold foods, desserts, and beverages. The dining room offers salads, soups, cold cuts, hot and cold entrées, desserts, and beverages in a buffet-style environment. Limited food services are available in Plaza Building, the Student Center, and the Library Café.

The cafeteria and kosher dairy bar seat 750. The dining room seats 180. Hours of operation extend from morning until evening. Catering is available for receptions and other special events. Vending machines are located in several buildings throughout the campus.

Starbucks. Starbucks, in the Library Café, serves coffee, espresso, and other hot beverages as well as cold drinks, baked goods, and snacks. Starbucks is open Monday through Thursday, 8 a.m. to 7 p.m., and Fridays, until 3 p.m.

Student Activities

Student Center

The Brooklyn College Student Center was established to further the educational mission and goals of Brooklyn College and the City University of New York by offering programs and services that provide for the personal, professional, social, and cultural development of students, faculty and staff members, and alumni of Brooklyn College.

The Student Center, on Campus Road and East 27 Street, contains lounges, meeting and conference rooms, a computer lab, game rooms, art displays, study rooms, music rooms, a television room, and a penthouse with a domed skylight. As the center for campus life, the Student Center contains the offices of the Student Center Board, student governments, Inter-Greek Council, Central Depository (the processing center for student activity monies allocated to student organizations), Student Development, and Student Activities and Program Services. The center is open Monday through Thursday, 8:30 a.m. to 11 p.m.; Friday until 4 p.m.; and Friday nights and weekends when there are scheduled activities.

The center is financed by a student activity fee that students pay each registration. The Student Center Board, consisting of nine students representing each of the three student governments, and a board of directors, composed of Brooklyn College administrators and six student government leaders, determine policy, programs, house rules, budget, and other matters.

The Student Center provides many special services and programs for students. It is the focal point for all cocurricular activities. In addition, the greater Brooklyn community frequently schedules special seminars and meetings in the Student Center. The administrative office is located off the main lobby.

Graduate Student Organization

The Graduate Student Organization (GSO), located in 308-309 Student Center, is the student government of the Division of Graduate Studies. Each Brooklyn College graduate student contributes to the graduate student government, which is funded by part of the student activity fee students pay each time they register. GSO elections are held annually; any matriculated

graduate student in good standing may seek office. Meetings of the organization are open to all students.

The GSO polls members, reports their opinions, and represents them on issues that concern them. Colloquia and other meetings are held on subjects of professional and social interest to the academic community. The GSO publishes a newsletter each semester.

The organization sponsors and gives funds to associations of graduate students in individual academic departments. Each association elects officers and has a yearly budget for journals and magazines, guest speakers, films, convention attendance, and other activities.

Further information may be obtained from the GSO office, 951-5503.

Recreational activities

Recreational facilities are open and unstructured, and facilities are available on an individual basis. Schedules for activities are available at the beginning of each semester. The recreational facilities include a fitness center, squash courts, basketball courts, jogging track, racquetball courts, and tennis courts. Basketballs and racquetball equipment are available in the Recreation Center, but students must bring their own tennis racquets. To use the facilities, students must present a valid Brooklyn College identification card in the Recreation Center, 125 Roosevelt Hall (telephone: 951-5366).

Intramural sports

Intramurals provide structured tournaments in a variety of sports for men, women, and coed teams. The program welcomes all students and faculty and staff members, regardless of their athletic abilities. Information may be obtained in the Recreation and Intramurals Office, 125 Roosevelt Hall (telephone: 951-5366).

Inventory of Registered Programs at Brooklyn College

The following graduate degree, advanced certificate, and combined undergraduate/graduate degree programs are offered at Brooklyn College (in certain cases, concentrations or options are indicated in parentheses). These programs have been approved by the New York State Education Department and are listed in the Inventory of Registered Programs. The Higher Education General Information Survey (HEGIS) code numbers appear next to the appropriate programs. (These should not be confused with the internal SIMS code numbers that appear in the *Schedule of Classes*.) Enrollment in other than registered or otherwise approved programs may jeopardize a student's eligibility for certain student aid awards.

| HEGIS code | Certificate or Program name | Degree or certificate awarded |
|-----------------------|--|--|
| 1002 | Art (digital art; drawing and painting; photography; printmaking; sculpture) | M.F.A. |
| 1003 | Art history | M.A. |
| 0831 | Art teacher | M.A. |
| 0401 | Biology | M.A. |
| 0401.01 | Biology teacher | M.A. |
| 1905 | Chemistry | M.A. |
| 1905.01 | Chemistry teacher | M.A. |
| 1214 | Community health (community health; health care management; health care policy and administration) | M.P.H. |
| 1214 | Community health (thanatology; education) (See also Health and nutrition sciences; Nutrition.) | M.A. |
| 0701 | Computer and information science (graphics/multimedia) | M.A. |
| 0702 | Information systems | M.S. |
| 0799 | Computer science and health science | M.S. |
| 0799 | Computer and information science and economics | B.S.–M.P.S. |
| 1507 | Creative writing (See also English.) | M.F.A. |
| 2204 | Economics | M.A. |
| 0502 | Economics: accounting | M.A. |
| | Education* | |
| 0802 | (See also teacher education programs in subject areas.) Childhood education teacher (grades 1 to 6) and extension to bilingual education | M.S. in Ed. |
| 0802 | Early childhood education teacher (birth to grade 2) | M.S. in Ed. |
| 0828 | Educational leadership | Advanced Certificate |
| 0830 | Literacy teacher | M.S. in Ed. |
| 0804.03 | Middle childhood education specialist: mathematics (grades 5 to 9) | M.S. in Ed. |
| 0804.04 | Middle childhood education teacher: general science (grades 5 to 9) | M.A. |
| 0826.01 | School counseling (An option within the M.S. in Ed. program qualifies for an extension of the certification to bilingual school counseling.) | M.S. in Ed.; Advanced Certificate |
| 0826.02 | School psychologist (An option within the Advanced Certificate program qualifies for an extension of the advanced certificate to bilingual psychologist.) | M.S. in Ed.; Advanced Certificate |

* A number of additional titles for alternative (transition B) certificates was added to the inventory by the State Education Department when it registered the teacher education programs to meet revised teacher certification regulations. Consult with the School of Education for further information.

| HEGIS code | Certificate or Program name | Degree or certificate awarded |
|-------------------|--|--------------------------------------|
| 0808 | Teacher of students with disabilities in early childhood and childhood education | M.S. in Ed. |
| 0815 | Teacher of students with speech and language disabilities | M.S. in Ed. |
| 1501 | English | M.A. |
| 1501.01 | English teacher (See also Creative writing.) | M.A. |
| 1299.30 | Exercise science and rehabilitation (See also Physical education.) | M.S. |
| 1102 | French | M.A. |
| 1102.01 | French teacher | M.A. |
| 4902 | General science teacher (grades 5 to 9) | M.A. |
| 1914 | Geology | M.A. |
| 0837 | Health teacher (See also Community health; Computer science and Health science; Nutrition.) | M.S. in Ed. |
| 2205 | History | M.A. |
| 0309 | Judaic studies | M.A. |
| 4901 | Liberal studies | M.A. |
| 1701 | Mathematics | M.A. |
| 1701.01 | Mathematics teacher (See also Education.) | M.A. |
| 1005 | Music (musicology, performance practice) | M.A. |
| 1004.10 | Music composition | M.Mus. |
| 1004 | Music performance | M.Mus. |
| 0832 | Music teacher | M.A. |
| 0832 | Music education | Advanced Certificate |
| 1306 | Nutrition (See also Community health; Health and nutrition sciences.) | M.S. |
| 1004 | Performance and interactive media arts | Advanced Certificate |
| 0835 | Physical education (psychosocial aspects of physical activity; sports management) | M.S. |
| 0835 | Physical education teacher (See also Exercise science and rehabilitation.) | M.S. in Ed. |
| 1902 | Physics | M.A. |
| 1902.01 | Physics teacher | M.A. |
| 2207 | Political science (political science; urban policy and administration) | M.A. |
| 2207/1401 | Political science and law (with Brooklyn Law School) | M.A.-J.D. |
| 2002 | Psychology Experimental psychology | M.A. |
| 2008 | Industrial and organizational psychology-human relations | M.A. |
| 2008 | Industrial and organizational psychology-organizational psychology and behavior | M.A. |
| 2201.01 | Social studies teacher | M.A. |
| 2208 | Sociology | M.A. |
| 1105 | Spanish | M.A. |
| 1105.01 | Spanish teacher | M.A. |
| 1506 | Speech (public communication) | M.A. |
| 1220 | Audiology | M.S. |
| 1220 | Speech-language pathology | M.S. |
| 0603 | Television and radio | M.S. |
| 0603 | Television production | M.F.A. |
| 1007 | Theater (acting, design and technical production, directing, dramaturgy and theater criticism, performing arts management) | M.F.A. |
| 1007 | Theater (history and criticism) | M.A. |

Programs and Courses of Instruction

Information about programs and courses may be obtained from the chairperson or the deputy chairperson for graduate study of each department.

Programs and regulations in this *Bulletin* are subject to change without notice. Students are advised to consult regularly with the graduate deputy of their department concerning their program of study.

Course numbers

Courses numbered 600–699 are broadly based survey courses that do not require extensive undergraduate preparation. They are intended for students in other disciplines and may not be offered toward a degree by candidates in the field in which they are given.

Courses numbered 700–799 require extensive undergraduate preparation and are intended for candidates for a master's degree or certificate in the field in which they are given. Other students may be admitted only with permission of the chairperson or deputy chairperson.

Course letters

Each course number is followed by G, T, or X. The letter G means that the course may be credited only toward a master's degree in liberal arts and sciences programs; T, that the course may be credited only toward a master's degree in the Teacher Education Program; and X, that the course may be credited toward a master's degree in either liberal arts and sciences programs or the Teacher Education Program.

In some cases, a student may receive permission to apply credit for a course designated G toward a master's degree in the Teacher Education Program or to apply credit for a course designated T toward a master's degree in liberal arts and sciences programs.

Courses whose number is preceded by the letter U are regular master's courses that may be credited toward a City University doctoral program.

Africana Studies

Office: 3105 James Hall
Telephone: 951-5597, 951-5598

Chairperson: Lynda R. Day
Deputy Chairperson, Division of Graduate Studies and SGS: Bert J. Thomas
Professors: Cunningham, Latortue, Thomas;
Associate Professor: Day.

The following courses are offered as electives for students in other fields.

Courses

The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

700X Black Research Methodology

45 hours; 3 credits

An introduction to methodology used to conduct empirical research in the Black community. The course will include an introduction to the theory of individual and organizational behavior; historical, experimental, and descriptive research methods; introduction to computer usage in conducting research; and discussions of issues relevant to research in the Black community.

715X Black Community Organizations and Participation

45 hours; 3 credits

Study, analysis, and evaluation of the techniques and forms of Black community expression and participation in the inner city. Policy enactment to deal with the problems of the Black community. Case studies reviewed.

Prerequisite: 6 credits of advanced courses in the social sciences, or permission of the chairperson.

730X The Political Economy of the Caribbean

45 hours; 3 credits

An analysis of the political economy of the states in the Caribbean, including Haiti, the Dominican Republic, Cuba, the French and Commonwealth Caribbean. The stated objectives of various development strategies advanced since the 1950s; the relationship between state systems, public policy output, and a response of the various structures/individuals within those systems.

770X Summer Seminar in Africa, the Caribbean, South America, or the United States

90 hours; 6 credits

Lectures, research, and study in selected historical, political, economic, and social aspects of life in a selected country or in a region of the United States. Lectures by Brooklyn College and host country scholars, in cooperation with a university in Africa, the Caribbean, South America, or the United States

may be supplemented by fieldwork, and library and empirical research. This course may not be taken more than once.

Prerequisite: completion of 6 graduate credits in the social sciences or the humanities; or permission of the chairperson.

775X Social Change in Africa, 1750-1945

30 hours plus conference; 3 credits

Introduction to social change in sub-Saharan Africa from the era of the slave trade to the end of World War II.

Emphasis on internal transformations sparked by industrialization, imperial expansion and colonization, including political innovations, changing market relations as well as transformations in kinship and gender relations. In depth coverage of slavery, women in the economy, the development of an African working class, religious transformations, the emergence of new elites, the growth of modern political activism, and resistance to colonization. This course is the same as History 754.IX.

780X Modern South Africa

30 hours plus conference; 3 credits

Analysis of major political, economic, and social developments in the Republic of South Africa since 1948. Against the backdrop of South Africa's recent history, topics examined include: the system of apartheid, White rule and Black challenge, the South African economy, South Africa and the wider world, the Nelson Mandela era, and U.S. South African interests and policies. This course is the same as Political Science 780X.

Anthropology and Archaeology

Office: 3307 James Hall

Telephone: 951-5507, 951-5509

Chairperson: H. Arthur Bankoff

Professor: Bankoff;

Associate Professor: Perdikaris.

The following courses are offered as electives for students in other fields.

Courses

The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

601X Summer Archaeological Field School

15 hours plus 150 hours supervised fieldwork; 6 credits

Intensive instruction in field methods and techniques of archaeology through participation in every aspect of an excavation; training in archaeological mapping, excavation techniques, and methods of archaeological laboratory analysis. For Summer Archaeological Field School abroad, room and board fees and travel expenses are additional.

Prerequisite: permission of the chairperson.

624X Seminar in Zooarchaeology

30 hours lecture, 30 hours laboratory; 3 credits

Study of animal remains from archaeological sites; methods of recovery, identification, and analysis. Special emphasis placed on natural and social environments, formation processes, subsistence strategies, and paleoenvironments.

Prerequisite: completion of the core courses in biology, anthropology, and archaeology in the Ph.D. program at the City University of New York Graduate Center, or permission of the chairperson.

752X North American Indians

45 hours lecture; 3 credits

Patterns of American Indian cultures north of Mexico; cultural and linguistic diversity, cultural adaptations and developments; contemporary Native Americans.

Prerequisite: credits in advanced social science in an undergraduate program or permission of the chairperson.

Art

Office: 5306 Boylan Hall
Telephone: 951-5181, 951-5182

Chairperson: Michael Mallory
Deputy Chairperson, Division of Graduate Studies: Patricia Cronin
Art History Program Adviser: Mona Hadler
Professors: D'Alessandro, Flam, Hadler, Mallory, Murray, Williams;
Associate Professors: Comerford, Cronin, Giusti, McCoy, Murphy;
Assistant Professors: Kiel.

The Art Department offers a master of fine arts in art; a master of arts, art teacher (all grades); and a master of arts in art history. The Art Department also offers courses that are part of the advanced certificate program in Performance and Interactive Media Arts (PIMA).

M.F.A. in art HEGIS code 1002

Students choose a concentration in one of the following: digital art; drawing and painting; printmaking; photography; or sculpture.

Matriculation requirements

Applicants must offer at least 36 credits in courses in art history and studio disciplines including a well-balanced distribution of credits in two-dimensional and three-dimensional studies acceptable to the Art Department.

Applicants must submit directly to the department graduate admissions committee a statement of graduate objectives and a selection of work in art emphasizing the intended area of concentration. Slides are acceptable. Materials should be sent to the committee before March 1 for fall admission.

General matriculation and admission requirements of the Division of Graduate Studies are in the section "Admission."

Degree requirements

Forty-eight credits are required for the degree.

The following courses are required: Art 702X, 704X, 782.1G, 782.2G, 782.3G, and nine credits in approved advanced art history courses. Art 782.1G, 782.2G, and 782.3G must be taken in sequence, usually beginning in the second term of matriculation.

Students must also complete 9 credits in advanced studio art, internship, or art history electives and must complete six credits in advanced studio art courses related to their concentration before taking Art 782.2G.

Students concentrating in photography may substitute Art 750X, if offered, for Art 702X.

Independent creative work developed in Art 782.1G, 782.2G, and 782.3G must culminate in a final exhibition with accompanying written paper that must be reviewed and approved by the graduate faculty committee.

Courses in the Art Department offered toward the degree must be 700-level courses.

The program of study, including independent work, must be approved by the deputy chairperson.

Charles G. Shaw Awards

For distinction in painting, the Art Department grants awards each term to a number of graduate students matriculated in the M.F.A. program.

M.A., art teacher (all grades) HEGIS code 0831

The profession of teacher education is licensed by the New York State Education Department. Therefore, program requirements are subject to change. All students should consult with the School of Education for the current requirements.

Matriculation requirements

Applicants must offer at least 30 credits in courses in art history and studio art, including basic design workshops (two-dimensional and three-dimensional), drawing and painting, sculpture and crafts, and other advanced courses acceptable to the Art Department.

Applicants must also offer (a) or (b) or (c):

(a) New York State Initial Certification in teaching art for all grades;

(b) courses in education that meet the New York State standards for the pedagogical core. These courses include study of the following: history of education and philosophy of education or principles of education or educational sociology; educational psychology or developmental psychology or psychology of adolescence or adolescent development; classroom management; teaching students with special needs and English language learners; 6 credits in literacy and language acquisition; curriculum development and methods of assessing student learning; uses of technology in the classroom; methods of teaching art in all grades; 100 hours of fieldwork; 40 days or 300 hours of student teaching of art in all grades, or one year of full-time teaching of art in all grades; and submission of scores on the L.A.S.T.;

(c) an undergraduate degree with a major in art or appropriate course work in art, and submission of scores on the L.A.S.T.

Applicants must have a minimum undergraduate scholastic index of 3.00. A minimum average of 3.00 in graduate courses is required to maintain matriculation.

Applicants who have not completed all the specific course requirements are given individual consideration and may be admitted with conditions, with the approval of the head of adolescence education and special subjects in the School of Education and the chairperson of the Art Department.

International applicants for whom English is a second language are required to pass the Test of English as a Foreign Language (TOEFL) with a score of 550 before being considered for admission.

Applicants must consult matriculation requirements for adolescence education and special subjects in the School of

Education section of the Bulletin, and should see the head of adolescence education and special subjects for counseling.

General matriculation and admission requirements of the Division of Graduate Studies are in the section "Admission."

Degree requirements

A minimum of 30 credits is required for the degree.

Students must complete the following 18 credits in courses in the Art Department:

Art 733X, 751X, 763X, 781T, and 6 credits in advanced courses in studio art or art history. Art 781T should be taken in the final term.

Students must complete 12 credits in courses in the School of Education. Students take different education courses and sequences of courses depending on their previous course work, teaching experience, and the certificates they hold.

Students who possess Initial Certification in teaching art must complete 9 credits in Group II and 3 credits in Group III, below. Students who do not possess Initial Certification in teaching art or equivalent course work and teaching experience or who are teaching but do not possess Initial Certification in teaching art must have the appropriate course work and credits in the subject area and must complete the appropriate courses in Group I before taking courses in Groups II and III, below. Students pursuing Initial Certification in teaching art must take ED 792.2X, Teaching Writing Across the Curriculum, in Group III.

Students who already have a master's degree but wish Initial Certification in teaching art must take appropriate courses in Group I and Group III below, as determined at the time of matriculation by the head of adolescence education and special subjects in the School of Education.

Group I: ED 742X, ED 792.1X, ED 763.17T, ED 764.5T, ED 723.17T, ED 764.51T.

Group II: ED 742.2T, ED 722.17T, ED 724.17T.

Group III: ED 716X, ED 721.17T, ED 726.1X, ED 731.3T, ED 751.2T, ED 751.1T, ED 784.2X, ED 792.2X, ED 792.4X/ENG 779X, ED 796X/THE 741, ED 799.5X.

The program of study must be approved early in the first semester by the chairperson or the deputy chairperson of the Art Department and the head of adolescence education and special subjects in the School of Education.

M.A. in art history HEGIS code 1003

Students choose as an area of concentration one of the periods or specializations of art history.

Matriculation requirements

Applicants must offer a spread of advanced art history courses, each in a different major period or specialization of art history acceptable to the department.

The department may require an interview.

General matriculation and admission requirements of the Division of Graduate Studies are in the section "Admission."

Degree requirements

Thirty credits are required for the degree.

Students must complete ten 700-level courses in art history, of which six are usually related to their area of concentration and four are outside it, resulting in a balanced program. Among these ten courses, students must include three problems or special problems courses chosen from the following: Art 708G, 725G, 762G, 773G, 775G, 797G, 798G, and 798.1G.

During the first two years, a minimum of one course each term is required. This requirement may be waived by the art history program adviser.

Before completing five courses, students must pass an examination to determine their general knowledge of art history. This requirement may be waived by the art history program adviser.

Students must submit a thesis or two papers of publishable quality acceptable to the department; they may incorporate research done in Art 798G and/or 798.1G.

Students must pass reading examinations in French and German approved by the department. Students may substitute another language related to their area of concentration for one of these with permission of the art history program adviser. The examination for a required language may be waived for a native speaker with permission of the art history program adviser.

Information about requirements for the thesis is in the section "Academic Regulations and Procedures."

Courses in the Art Department offered toward the degree must be 700-level courses.

The program of study must be approved by the art history program adviser.

Recommendations

Students should audit courses in related fields in other departments.

For experience in college-level teaching, students may work with the instructor of an undergraduate course in their area of concentration. Collaboration is encouraged in preparing lectures, making up exams, and reading papers.

CUNY Ph.D.

The City University of New York offers a doctoral program in art history. General information about CUNY Ph.D. programs is in the chapter "About Brooklyn College."

The Art Department offers courses at Brooklyn College in art history that are creditable toward the CUNY doctoral degree with permission of the executive officer of the doctoral program. For information about the courses, students should consult the art history program adviser of the Art Department and the executive officer of the doctoral program.

Meier Bernstein Art Library
5300 Boylan Hall

Located in newly renovated space in the Art Department, the library provides visual resources—art books, periodicals, and digital materials—which may be used for reference, research, writing assignments, course review, current information about the art world, viewing pictures, or pursuing general interests. The library sponsors lectures and studio critiques by guest artists and others from the New York art community.

The library is named for the painter who established the Meier Bernstein Foundation for the promotion of fine arts education, from which it receives most of its funding; additional support comes from the faculty and alumni of the college's Art Department.

Courses

Unless a prerequisite is specific, students may apply graduate or undergraduate courses toward fulfillment of that prerequisite.

The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

623.IT Introduction to Drawing and Color I

60 hours; 3 credits

Workshop for students who are not art majors and want to continue in art beyond the basic workshop. Practice in drawing. Creative work in color. Discussion of masterworks of the past and present in terms of actual workshop problems. Museum visits. (Not open to students who have completed an introductory course in drawing or painting.)

Prerequisite: a course in basic design.

642T Painting

60 hours; 3 credits

Advanced workshop in various painting media. Discussion of materials and techniques. Lecture.

Prerequisite: matriculation for the M.S. in Ed. in the liberal arts option in art; and Art 623.IT or the equivalent of the course.

645T Photography

60 hours; 3 credits

Development of visual perception through photographic processes: the photograph, camera, films, exposure, analysis of negatives, darkroom procedures. Problems of lighting and previsualization. Discussion of the work of past and present master photographers. Lecture.

Prerequisite: matriculation for the M.S. in Ed. in the liberal arts option in art; and Art 623.IT or the equivalent of the course.

651T Sculpture

60 hours; 3 credits

Workshop problems in elements of sculptured form, volume, and mass. Work in clay and plaster. Discussion of modeling, carving, construction, and the nature of materials with reference to masterworks. Lecture.

Prerequisite: matriculation for the M.S. in Ed. in the liberal arts option in art; and Art 623.IT or the equivalent of the course.

653T Ceramics

60 hours; 3 credits

Workshop in the development of creative ceramics skills for elementary school teachers. Forming, texturing, and glazing. Firing techniques; use and maintenance of kilns.

Prerequisite: matriculation for the M.S. in Ed. in the liberal arts option in art; and Art 623.IT or the equivalent of the course.

700G Basic Studies in Connoisseurship

30 hours plus conference; 3 credits

Seminar or colloquium. Comprehensive study of art history through examination and evaluation of works of art, of various periods, in museums and private collections. Meetings conducted by faculty and guest speakers. Comprehensive examination.

Prerequisite: matriculation for the M.A. in art history or the M.F.A. in art, or permission of the deputy chairperson.

702X Workshop in the History of Art

60 hours; 3 credits

Study of past and present art using techniques of art history and the design workshop. Workshop assignments correlated with lecture material to develop historical insight through immediate experience.

Prerequisite: matriculation for the M.A. in teaching art or matriculation for the M.F.A. in art or permission of the deputy chairperson.

704X Workshop in the Theory and History of Design

60 hours; 3 credits

Historical analysis of basic design concepts. Evolution of handcrafted design from ancient times to the present. Assigned readings. Seminars and workshop demonstrations.

Prerequisite: matriculation for the M.A. in teaching art or matriculation for the M.F.A. or permission of the deputy chairperson.

706G Topics in Egyptian and Ancient Near-Eastern Art

30 hours plus conference; 3 credits

Specific topics are announced one year in advance. Students may take this course twice but may not repeat topics. (Not open to students who have completed the same topic in Art 706.IG.)

Prerequisite: matriculation for the M.A. in art history or the M.F.A. in art or permission of the deputy chairperson.

707G History of Photography

30 hours plus conference; 3 credits

Seminar or colloquium. Technical and aesthetic history of photography. Its relation to other arts.

Prerequisite: permission of the deputy chairperson.

708G Problems in Egyptian and Ancient Near-Eastern Art

30 hours plus conference; 3 credits

Seminar or colloquium. Students may take this course four times but may not repeat topics. (Not open to students who have completed the same topic in Art 708.1G, 708.2G, 708.3G.)

Prerequisite: matriculation for the M.A. in art history or the M.F.A. in art or permission of the deputy chairperson or the art history program adviser.

724G Topics in Early Medieval, Romanesque, and Gothic Art

30 hours plus conference; 3 credits

Specific topics are announced one year in advance. Students may take this course for credit three times but may not repeat topics. (Not open to students who have completed the same topic in Art 724.1G or 724.2G.)

Prerequisite: matriculation for the M.A. in art history or the M.F.A. in art or permission of the deputy chairperson.

725G Problems in Early Medieval, Romanesque, and Gothic Art and Architecture

30 hours plus conference; 3 credits

Seminar or colloquium. Students may take this course four times but may not repeat topics. (Not open to students who have completed the same topic in Art 725.1G, 725.2G, or 725.3G.)

Prerequisite: a course chosen from Art 719G through 723G in medieval art appropriate to the selected problem of the term or permission of the deputy chairperson or the art history program adviser.

733X Advanced Drawing Techniques I

60 hours; 3 credits

Advanced work in various drawing media. Emphasis on development of mastery in creative draftsmanship and black-and-white composition. Figure drawing.

Prerequisite: matriculation for the M.A. in teaching art or matriculation for the M.F.A.; and a minimum of two undergraduate drawing courses or permission of the deputy chairperson.

734X Advanced Drawing Techniques II

60 hours; 3 credits

Continuation of Art 733X.

Prerequisite: Art 733X.

743X Advanced Painting Techniques I

60 hours; 3 credits

Advanced creative work in easel painting. Analysis of various techniques. Utilization of a variety of media.

Prerequisite: matriculation for the M.A. in teaching art or matriculation for the M.F.A.; and a minimum of two undergraduate painting courses or permission of the deputy chairperson.

744X Advanced Painting Techniques II

60 hours; 3 credits

Continuation of Art 743X.

Prerequisite: Art 743X.

745X Creative Photography I

60 hours; 3 credits

Advanced creative work in camera and darkroom techniques aimed at developing individual expression and technical mastery. Independent research in contemporary trends. Seminar discussion.

Prerequisite: matriculation for the M.A. in teaching art or matriculation for the M.F.A.; and a minimum of two undergraduate courses in creative photography or permission of the deputy chairperson.

746X Advanced Creative Photography II

60 hours; 3 credits

Continuation of Art 745X.

Prerequisite: Art 745X.

747X Advanced Ceramics

60 hours; 3 credits

Traditional and contemporary methods of form making, decoration, glaze chemistry, firing techniques.

Prerequisite: matriculation for the M.A. in teaching art or matriculation for the M.F.A.; and at least one undergraduate course in ceramics.

750X Workshop in the History of Photography and the Motion Picture

60 hours; 3 credits

Historical survey of the art of the camera from the nineteenth-century daguerreotype through still photography and motion pictures of the present. Workshop assignments correlated with lecture material.

Prerequisite: a minimum of 18 undergraduate credits in art courses or permission of the deputy chairperson.

751X Sculpture I

60 hours; 3 credits

Problems in creative sculpture stressing individual solutions and versatile craftsmanship in different materials and techniques. Discussion of history and theory of sculpture. Lecture.

Prerequisite: matriculation for the M.A. in teaching art or matriculation for the M.F.A. in art.

752X Sculpture II

60 hours; 3 credits

Problems in creative sculpture stressing individual solutions and versatile craftsmanship in different materials and techniques. Discussion of history and theory of sculpture.

Prerequisite: matriculation for the M.A. in teaching art or matriculation for the M.F.A. in art; Art 751X, or a minimum of two undergraduate courses in three-dimensional design and sculpture media, or permission of the deputy chairperson.

755G Renaissance Painting in Florence and Vicinity during the Fifteenth Century

30 hours plus conference; 3 credits

Formation and development of the early Renaissance style in Florentine painting of the fifteenth century.

Prerequisite: matriculation for the M.A. in art history or the M.F.A. in art or permission of the deputy chairperson.

757G The High Renaissance and Its Aftermath in Florence and Rome

30 hours plus conference; 3 credits

Inception, fruition, and disintegration of the High Renaissance style in painting and sculpture of central Italy.

Prerequisite: matriculation for the M.A. in art history or the M.F.A. in art or permission of the deputy chairperson.

760G Topics in Italian Renaissance Art and Architecture

30 hours plus conference; 3 credits

Specific topics are announced one year in advance. Students may take this course four times but may not repeat topics. (Not open to students who have completed the same topic in Art 760.1G, 760.2G, or 760.3G.)

Prerequisite: matriculation for the M.A. in art history or the M.F.A. in art or permission of the deputy chairperson.

761G Northern European Painting

30 hours plus conference; 3 credits

Stylistic and iconographic characteristics of northern European painting of the fifteenth century.

Prerequisite: matriculation for the M.A. in art history or the M.F.A. in art or permission of the deputy chairperson.

762G Problems in Late Gothic and Renaissance Art and Architecture

30 hours plus conference; 3 credits

Seminar or colloquium. Students may take this course four times but may not repeat topics. (Not open to students who have completed the same topic in Art 762.1G, 762.2G, 762.3G.)

Prerequisite: a course chosen from Art 753G through 761G in late Gothic or Renaissance art appropriate to the problem of the term or permission of the deputy chairperson or the art history program adviser.

763X Printmaking I

60 hours; 3 credits

Advanced work in a wide range of graphic techniques including etching, engraving, dry point, lithography, wood-block printing. Extensive work in drawing. Emphasis on individual creative achievement.

Prerequisite: matriculation for the M.A. in teaching art or matriculation for the M.F.A. in art.

765X Printmaking II

60 hours; 3 credits

Advanced work in a wide range of graphic techniques including etching, engraving, dry point, lithography, and wood-block printing for the experienced printmaker. Emphasis on individual creative achievement.

Prerequisite: matriculation for the M.A. in teaching art or matriculation for the M.F.A. in art; Art 763X, or a minimum of two undergraduate courses in printmaking techniques, or permission of the deputy chairperson.

767G Baroque Art in Italy

30 hours plus conference; 3 credits

Origins and development of the Baroque style in painting and sculpture in seventeenth-century Italy.

Prerequisite: matriculation for the M.A. in art history or the M.F.A. in art or permission of the deputy chairperson.

769G Baroque Painting outside Italy

30 hours plus conference; 3 credits

Baroque painters of the seventeenth century in Spain, France, and the Low Countries.

Prerequisite: matriculation for the M.A. in art history or the M.F.A. in art or permission of the deputy chairperson.

772G Topics in Baroque Art and Architecture

30 hours plus conference; 3 credits

Specific topics are announced one year in advance. Students may take this course twice but may not repeat topics. (Not open to students who have completed the same topic in Art 772.1G.)

Prerequisite: matriculation for the M.A. in art history or the M.F.A. in art or permission of the deputy chairperson.

773G Problems in Baroque Art and Architecture

30 hours plus conference; 3 credits

Seminar or colloquium. Students may take this course four times but may not repeat topics. (Not open to students who have completed the same topic in Art 773.1G, 773.2G, or 773.3G.)

Prerequisite: a course in Baroque art chosen from Art 767G, 769G, and 771G appropriate to the problem of the term or permission of the deputy chairperson or the art history program adviser.

775G Problems in Near-Eastern and Far-Eastern Art and Architecture

30 hours plus conference; 3 credits

Seminar or colloquium. Students may take this course four times but may not repeat topics. (Not open to students who have completed the same topic in Art 775.1G, 775.2G, or 775.3G.)

Prerequisite: a course in Near-Eastern and/or Far-Eastern art and architecture appropriate to the selected problem of the term or permission of the deputy chairperson or the art history program adviser.

776G Topics in Near-Eastern and Far-Eastern Art

30 hours plus conference; 3 credits

Consideration of the character and development of Persian, Islamic, Indian, Indonesian, Chinese, and Japanese art. Areas of study are selected by the instructor. Students may take this course four times but may not repeat topics. (Not open to students who have completed the same topic in Art 776.1G, 776.2G, or 776.3G.)

Prerequisite: matriculation for the M.A. in art history or the M.F.A. in art or permission of the deputy chairperson or the art history program adviser.

777G The Aesthetics of Information

60 hours of workshop; 3 credits

Examination of critical thought about art and technology. Issues of identity construction, interface, performativity, virtuality, and representation. Creative projects as well as short papers are required.

Prerequisite or corequisite: matriculation for the M.A. degree, art teacher (K-12), or matriculation for the M.F.A. degree in art.

778G Advanced Digital Art I

60 hours of workshop; 3 credits

Strategies of media translation, replication, and distribution, with an emphasis on cross-media creative work. Print, video, and net art projects.

Prerequisite or corequisite: matriculation for the M.A. degree, art teacher (K-12), or matriculation for the M.F.A. degree in art.

779G Advanced Digital Art II

60 hours; 3 credits

Techniques of incorporating viewer intervention into a perceptual environment. Interactive art possibilities and venues, including site-specific installations (custom interface design and physical computing) and network based work (VRML or Quicktime VR). This course is the same as Computer and Information Science 753G.

Prerequisite or corequisite: matriculation for the M.A. degree, art teacher (K-12), or matriculation for the M.F.A. degree in art, or Computer and Information Science 741X or 752X.

781T Projects in Creative Art for the Classroom

30 hours plus conference; 3 credits

Initiation and development of projects in creative art in consultation with the instructor. Presentation of an evolving portfolio to both art and education faculty for evaluation. Must satisfy standards of originality and execution consistent with achievement of the advanced degree, and demonstrate and document how personal artistic knowledge translates into classroom practice. (This course is the same as Education 781X).

Prerequisite: matriculation for the M.A. in teaching art.

782.1G Master Seminar and Research

30 hours plus 120 hours of independent work and conference; 6 credits

Evaluative and critical techniques in the visual arts, applying analytical criteria to the student's independent work in a medium. Examination of historical models of style and theory as antecedents of contemporary practice. Emphasis on independent development and exploration within a chosen medium. Preparation of a written prospectus. Review and approval by the graduate faculty committee is required before taking Art 782.2G.

Prerequisite: matriculation for the M.F.A. in art or permission of the deputy chairperson.

782.2G Master Project I

Minimum of 180 hours of independent work and conference; 6 credits

Independent research, development, and production of creative work in the student's concentration. Written report. Review and approval of work in progress by the graduate faculty committee is required before taking Art 782.3G.

Prerequisite: matriculation for the M.F.A. and Art 782.1G and a minimum of two elective studio courses related to the concentration.

782.3G Master Project II

Minimum of 180 hours of independent work and conference; 6 credits

Continuation of Art 782.2G. An exhibition of work and a written report are reviewed and must be approved by the graduate faculty committee at the end of the term.

Prerequisite: matriculation for the M.F.A. and Art 782.2G.

784G Internship

60 hours; 3 credits

Some undergraduate art teaching. Preparing lessons and instructional materials, and assisting the instructor in presentations and evaluations.

Prerequisite: matriculation for the M.F.A. in art and permission of the instructor.

787G Impressionism and Postimpressionism

30 hours plus conference; 3 credits

Origins and development of Impressionism, Postimpressionism, and Neoimpressionism in European painting from 1850 to 1900.

Prerequisite: matriculation for the M.A. in art history or the M.F.A. in art or permission of the deputy chairperson.

789G European Art since 1900

30 hours plus conference; 3 credits

Major trends in European painting and sculpture in the first half of the twentieth century.

Prerequisite: matriculation for the M.A. in art history or the M.F.A. in art or permission of the deputy chairperson.

790G Women in Art

30 hours plus conference; 3 credits

Exploration of the changing image and role of women in art from the Renaissance to the present. Major artists including Gentileschi, Delaunay, Modersohn-Becker, Kahlo, O'Keefe, and Sherman will be studied. Issues of gender, race, and contemporary feminist theory will be discussed

Prerequisite: matriculation for the M.A. in art history, the M.F.A. in art, the M.A. in art education, or permission of the deputy chairperson.

792G Art Theory and Criticism

30 hours plus conference; 3 credits

Perspectives on art from different cultures and periods; interpretation and analysis of works of art through various approaches from art history, art criticism, and art theory. New materials and definitions of contemporary art. Topics include biography, formal analysis, iconography, social history, gender, race, psychoanalysis, modernism, post-structuralism.

Prerequisite: matriculation for the M.A. in art history, the M.F.A. in art, the M.A. in art education, or permission of the deputy chairperson.

793G Modern Art in America

30 hours plus conference; 3 credits

Development of art in America from 1860 to the present.

Prerequisite: matriculation for the M.A. in art history or the M.F.A. in art or permission of the deputy chairperson.

794G American Art from World War II to the Present

30 hours plus conference; 3 credits

Major contemporary painters and sculptors seen in relation to broader trends and developments. Emphasis on the New York school.

Prerequisite: matriculation for the M.A. in art history or the M.F.A. in art or permission of the deputy chairperson.

795.1G Modern Architecture to World War I

30 hours plus conference; 3 credits

Origins of the modern movement in stylistic and technological developments of the nineteenth century. Formulation of diverse conceptions of a new architecture before World War I. (Not open to students who have completed Art 795G.)

Prerequisite: matriculation for the M.A. in art history or the M.F.A. in art or permission of the deputy chairperson.

795.2G Modern Architecture since 1914

30 hours plus conference; 3 credits

Major movements of theory and design in twentieth-century architecture. Modernism.

Prerequisite: matriculation for the M.A. in art history or the M.F.A. in art or permission of the deputy chairperson.

796G Topics in Modern European and American Art and Architecture

30 hours plus conference; 3 credits

Specific topics are announced one year in advance. Students may take this course four times but may not repeat topics. (Not open to students who have completed the same topic in Art 796.1G, 796.2G, or 796.3G.)

Prerequisite: matriculation for the M.A. in art history or the M.F.A. in art or permission of the deputy chairperson.

797G Problems in European and American Art and Architecture of the Nineteenth and Twentieth Centuries

30 hours plus conference; 3 credits

Seminar or colloquium. Students may take this course four times but may not repeat topics. (Not open to students who have completed the same topic in Art 797.1G, 797.2G, or 797.3G.)

Prerequisite: a course chosen from Art 785G through 795.1G in American or European art appropriate to the problem of the term or permission of the deputy chairperson or the art history program adviser.

798G, 798.1G Special Problems

30 hours plus conference each term; 3 credits each term
Research supervised by a faculty member in the student's area of concentration. Students may take these courses more than once.

Prerequisite: matriculation for the M.A. in art history or the M.F.A. in art and permission of the deputy chairperson or the art history program adviser.

799X, 799.1X, 799.2X, 799.3X, 799.4X Special Problems in Visual Arts Media

90 hours of independent work plus conference each term; 3 credits each term
Research supervised by a faculty member in media problems related to the student's area of interest in the visual arts. Portfolio and/or paper each term.

Prerequisite: matriculation for the M.F.A. in art or the M.A. in teaching art and permission of the deputy chairperson and instructor.

The following courses are inactive and will be offered only if there is sufficient demand:

701G Art and Archaeology of Ancient Egypt

703G Art and Archaeology of Mesopotamia and Iran

705G Modern Urban Design

709G Archaic Greek Art

710G The Bronze Age in Greece

711G The Classical Period in Greek Art

713G Hellenistic Art

715G Roman Imperial State Art

717G Problems in Aegean, Greek, and Roman Art and Architecture

719G Medieval Art to the Time of Charlemagne

720.1G Byzantine Art I: From the Catacombs to Iconoclasm

720.2G Byzantine Art II: From the Macedonian Renaissance to the Fall of Constantinople

721G Romanesque Art

723G Gothic Art in Europe

753G Early Florentine and Sienese Painting

759G Late Gothic and Early Renaissance Sculpture in Italy

771G Baroque Architecture in Europe

774G Japanese Buddhist Art

774.1G Early Chinese Painting

785G Neoclassicism and Romanticism

791G American Art to the Civil War

Biology

Office: 200 Ingersoll Hall Extension
Telephone: 951-5396

Chairperson: John Blamire

Deputy Chairperson, Division of Graduate Studies, Ph.D. Program:

Dan Eshel

Deputy Chairperson, Division of Graduate Studies, M.A. Program: Charlene L. Forest

Professors: Blamire, Eshel, Eckhardt, Franz, Gavin, McGowan;

Associate Professors: Forest, He, Nishiura;

Assistant Professors: Basil, Muth, Polle, Singh.

The Biology Department offers a master of arts degree program in biology and a master of arts degree program in teaching biology (7-12).

M.A. in biology HEGIS code 0401**Matriculation requirements**

Applicants must offer adequate preparation in the following, with a grade point average of 3.00 or higher: a minimum of 8 credits of introductory biology; an appropriate general physics course; two terms of organic chemistry; and a minimum of two advanced courses selected from the following areas of study: botany, zoology, microbiology, biochemistry, cell biology, anatomy, ecology, evolution, general physiology, or genetics.

The Biology Department's graduate admission committee selects candidates to be admitted to the program. An interview may be required of applicants.

General matriculation and admission requirements of the Division of Graduate Studies are in the section "Admission."

Degree requirements

Thirty credits are required for the degree.

Students must complete 21 credits in courses in the Biology Department. The following courses are required: Biology U793.01G, U793.02G, and 799.1G. Biology U791G is strongly recommended, but not required. No more than 2 credits in Biology U791G may be counted toward the degree.

With permission of the deputy chairperson, the remaining credits required for the degree may be in courses in another science department.

In the second year, students must pass a comprehensive examination.

Students must submit a thesis acceptable to the department.

Students must pass a test, given by the department, of their ability to read scientific literature in French, German, Russian, or another language acceptable to the department. Proficiency in a computer language may be substituted with permission of the deputy chairperson.

Information about requirements for the comprehensive examination and thesis is in the section "Academic Regulations and Procedures."

The program of study must be approved by the department graduate studies committee.

M.A., biology teacher (7–12) HEGIS code 0401-01

The profession of teacher education is licensed by the New York State Education Department. Therefore, program requirements are subject to change. All students should consult with the School of Education for the current requirements.

Matriculation requirements

Applicants must offer adequate preparation in the following, with an average grade of B or higher in biology courses: general biology; general physics; an advanced course in botany, zoology, general physiology, and genetics; and two terms of organic chemistry.

Applicants must also offer (a) or (b) or (c):

(a) New York State Initial Certification in teaching biology for grades 7–12;

(b) courses in education that meet the New York State standards for the pedagogical core. These courses include study of the following: history of education and philosophy of education or principles of education or educational sociology; educational psychology or developmental psychology or psychology of adolescence or adolescent development; classroom management; teaching students with special needs and English language learners; 6 credits in literacy and language acquisition; curriculum development and methods of assessing student learning; uses of technology in the classroom; methods of teaching biology in grades 7–12; 100 hours of fieldwork; 40 days or 300 hours of student teaching of biology in grades 7–12, or one year of full-time teaching of biology in grades 7–12; and submission of scores on the L.A.S.T.;

(c) an undergraduate degree with a major in biology or appropriate course work in biology, and submission of scores on the L.A.S.T.

Applicants must have a minimum undergraduate scholastic index of 3.0. A minimum average of 3.0 in graduate courses is required to maintain matriculation.

Applicants who have not completed all the specific course requirements are given individual consideration and may be admitted with conditions, with the approval of the head of adolescence education and special subjects in the School of Education and the chairperson of the Biology Department.

International applicants for whom English is a second language are required to pass the Test of English as a Foreign Language (TOEFL) with a score of 550 before being considered for admission.

Applicants must consult matriculation requirements for adolescence education and special subjects in the School of Education section of the Bulletin, and should see the head of adolescence education and special subjects for counseling.

General matriculation and admission requirements of the Division of Graduate Studies are in the section "Admission."

Degree requirements

A minimum of 34 credits is required for the degree.

Students must complete 22 credits in courses in biology and related areas.

Students must complete 12 credits in courses in the School of Education. Students take different education courses and sequences of courses depending on their previous course work, teaching experience, and the certificates they hold. Students who possess Initial Certification in teaching biology must complete 9 credits in Group II and 3 credits in Group III, below. Students who do not possess Initial Certification in teaching biology or equivalent course work and teaching experience or who are teaching but do not possess Initial Certification in teaching biology must have the appropriate course work and credits in the subject area and must complete the appropriate courses in Group I before taking courses in Groups II and III, below.

Students pursuing Initial Certification in teaching biology must take ED 792.2X, Teaching Writing Across the Curriculum, in Group III.

Students who already have a master's degree but wish Initial Certification in teaching biology must take appropriate courses in Group I and Group III below, as determined at the time of matriculation by the head of adolescence education and special subjects in the School of Education.

Group I: ED 742X, ED 792.1X, ED 763.04T, ED 764.5T, ED 723.04T, ED 764.5T.

Group II: ED 742.2T, ED 722.04T, ED 724.04T.

Group III: ED 716X, ED 721.04T, ED 726.1X, ED 731.3T, ED 751.2T, ED 784.2X, ED 792.2X, ED 792.4X/ENG 779X, ED 796X/THE 741, ED 799.5X.

Students must pass a comprehensive examination or submit a thesis acceptable to the Biology Department. Information about requirements for the comprehensive examination and the thesis is in the section "Academic Regulations and Procedures."

The program of study must be approved early in the first semester by the chairperson or the deputy chairperson of the Biology Department and the head of adolescence education and special subjects in the School of Education.

Fellowships

Some fellowships are available to qualified students. Inquiry should be made of the chairperson at the time of application.

CUNY Ph.D.

The City University of New York offers a doctoral program in biology. General information about CUNY Ph.D. programs is in the chapter "About Brooklyn College."

The Biology Department offers courses at Brooklyn College that are creditable toward the CUNY doctoral degree. For information about the courses, students should consult the deputy chairperson of the Biology Department and the executive officer of the doctoral program.

Sigma Xi

Sigma Xi, the Scientific Research Society, encourages original investigation in the natural sciences, pure and applied. The fields of activity of the society include the physical sciences, the life sciences, the earth sciences, and mathematics. The Brooklyn College Chapter elects students to associate membership in the society on the basis of academic excellence and marked aptitude for research in one of the fields listed above.

Courses

Prerequisite of admission to all courses is permission of the chairperson. A doctoral student needs permission of his or her advisory committee.

Unless a prerequisite is specific, students may apply graduate or undergraduate courses toward fulfillment of that prerequisite.

The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

701T, 702T Modern Concepts in Biology I, II

60 hours each term; 4 credits each term

Significant contemporary concepts in biology.

U711X Biotechnology of Algae

2 hours lecture, 1 hour discussion section; 3 credits

Phylogeny, evolution, habitats, growth cycles, and genetic engineering of algae; biosynthetic pathways of algal products and their metabolic regulation; interdisciplinary topics including designing bioreactors, nutritional value of natural products from algae; the economic aspects of patent and management of companies dealing with algae. A required in-depth discussion of topics pertinent to algal biotechnology will take place following every lecture.

Prerequisite: Biology 29; Chemistry 1 or its equivalent; and permission of the chairperson.

U712.01X Introduction to Recombinant DNA Technology: Lecture

30 hours; 2 credits

This course is an introduction to the molecular biology of the gene and some of the methodologies used for the isolation and cloning of genes.

U712.02X Introduction to Recombinant DNA Technology: Laboratory

120 hours; 4 credits

Laboratory work related to the subject matter of Biology U712.01X

Prerequisite or corequisite: Biology U712.01X.

U714.01G Cell Biology: Lecture

60 hours lecture and conference; 4 credits

Intensive study of major areas of cell biology; integration of cellular ultrastructure; metabolism; transmission of cellular information. Fall term.

U716X Cells in Culture

60 hours laboratory, 15 hours recitation; 3 credits

A mixed-format course on the use of cells in culture, including laboratory experience and a recitation hour. In the laboratory, students perform a series of planned experiments on cell cultures to become familiarized with research techniques. In addition, students carry out a limited project of their own design after consultation with the instructor. The recitation hour includes discussions of essential techniques used to culture cells and discussions of representative papers from the research literature.

Prerequisite: permission of the instructor.

U717X Advanced Cell Culture Techniques

60 hours laboratory, 15 hours recitation; 3 credits

An advanced course on cell culture techniques in which students are responsible for researching the literature and designing one or two advanced sets of experiments from a common list of project topics after consultation with the instructor. The planning of the projects is to include considerations of cost and sources of supply, timing of purchase, equipment availability, reagent preparation, a written proposal of objectives, detailed experimental protocols, appropriate control experiments, recording of results, potential statistical analysis, hypothesis testing, and final interpretation of results. Each project will be concluded with the submission of a written report and an oral presentation.

Prerequisite: Biology U716X and the permission of the instructor.

U732.01X Applied Microbiology: Lecture

30 hours; 2 credits

Applied methods in microbiology. Study of growth, metabolism, and genetics of bacteria and fungi, relating to industrial, environmental, food, and medical microbiology.

Prerequisite: a course in microbiology.

U750.03X Developmental Biology: Lecture

45 hours; 3 credits

Physiology of development. Mechanisms of fertilization, changes in the metabolism of a fertilized egg, differentiation, alterations in the metabolism of the developing embryo, organizers and their mode of action. Spring term.

765X Biology of Estuaries

45 hours; 3 credits

Survey of estuaries and coastal ecosystems; an introduction to major estuarine processes, habitats, and organisms; factors affecting community structure and function. Three all-day field trips.

Prerequisites: open to biology graduates; with permission of the instructor; open to graduates in geology, chemistry, and engineering.

U791G Colloquium

15 hours; ½ credit

Discussion of recent contributions and research in progress in biology. No more than 2 credits in this course may be applied toward the degree.

U792.01G Advanced Study

30 hours; 2 credits

Tutorial study with a faculty member in an area in which formal course work is not offered. Assigned reading, reports, and laboratory or fieldwork. Weekly discussion and examinations by arrangement with the instructor.

U792.02G Advanced Study

60 hours; 4 credits

Tutorial study with a faculty member in an area in which formal course work is not offered. Assigned reading, reports, and laboratory or fieldwork. Weekly discussion and examinations by arrangement with the instructor.

U793.01G, U793.02G Seminar in Special Topics

30 hours each term; 2 credits each term

Topical discussion of recent contributions in biology. Course content varies from term to term. Students may not repeat topics.

U793.03G Seminar in Special Topics

45 hours; 3 credits

Topical discussion of recent contributions in biology. Course content varies from term to term.

U794.01X Experimental Biology: Lecture

45 hours; 3 credits

Experimental approach to problems in biology. Course content varies from term to term.

U794.02X Experimental Biology: Laboratory

90 hours; 3 credits

Experimental approach to problems in biology. Course content varies from term to term.

U795.1X Research Topics in Biology

45 hours; 3 credits

Lecture in selected areas of modern biology. Course content varies from term to term. Students may take this course twice, but may not repeat topics. (Not open to students who have completed the same topic in Biology 795.2X.)

799.1G, 799.2G Thesis Research

45 hours each term; 2 credits each term

Research for master's thesis supervised by a faculty member. No more than four credits may be counted toward the degree. Credit is not earned until the thesis is accepted.

Prerequisite: completion of all graduate laboratory courses recommended by the department graduate studies committee.

The following courses are inactive and will be offered only if there is sufficient demand:

| | |
|-----------------|--|
| U700.06X | Lectures in Genetics |
| U705.05X | Evolutionary Biology of Vertebrates |
| U714.04G | Cell Biology: Laboratory |
| U720.01X | Animal Physiology: Lecture |
| U721.01X | Methods in Physiological Research: Laboratory |
| U760.01G | Ecology: Lecture |
| U763G | Experimental Parasitology: Lecture |
| U772G | Biological Electron Microscopy |

Chemistry

Office: 359 Ingersoll Hall Extension
Telephone: 951-5458

Chairperson: Małgorzata Ciszkowska
Deputy Chairperson, Division of Graduate Studies:
Richard S. Magliozzo
Professors: Ciszkowska, Davenport, Howell, Levine;
Associate Professor: Greer, Huang, Magliozzo, Telting-Diaz;
Assistant Professors: Kobrak, Koide.

The Chemistry Department offers a master of arts degree in chemistry and a master of arts degree program for chemistry teacher (7–12).

M.A. in chemistry HEGIS code 1905

This program is intended for students who seek advanced study in the fundamentals of chemistry.

Matriculation requirements

Applicants must offer the following: two terms of general chemistry including qualitative analysis; one term of analytical chemistry; two terms of organic chemistry; two terms of physical chemistry; two terms of calculus; and two terms of general physics.

General matriculation and admission requirements of the Division of Graduate Studies are in the section "Admission."

Degree requirements

Thirty credits are required for the degree.

Students must complete 19 credits in courses in the Chemistry Department. The following courses are required: Chemistry 705.1G, 710G, 750G, 757.1G or 770G, 760G, and 790G or 791G.

The remaining credits required for the degree may be in graduate courses in any department approved by the deputy chairperson.

Students must (a) submit a thesis acceptable to the department or (b) pass a comprehensive examination. Students who elect to write a thesis must take Chemistry 700.1G. Chemistry 790G or 791G must be completed before work is begun on the thesis.

Students must (a) pass a test, given by the department, of their ability to read scientific literature in French, German, Japanese, Chinese, or Russian, or (b) complete an advanced course in computer science approved by the deputy chairperson.

Information about requirements for the thesis is in the section "Academic Regulations and Procedures."

Courses in the Chemistry Department offered toward the degree must be 700-level courses.

The program of study must be approved by the deputy chairperson.

M.A., chemistry teacher (7–12) HEGIS code 1905-01

The profession of teacher education is licensed by the New York State Education Department. Therefore, program requirements are subject to change. All students should consult with the School of Education for the current requirements.

Matriculation requirements

Applicants must offer courses in chemistry as follows: general chemistry, including qualitative analysis; two terms of organic chemistry; and analytical chemistry.

Applicants must also offer (a) or (b) or (c):

(a) New York State Initial Certification in teaching chemistry for grades 7–12;

(b) courses in education that meet the New York State standards for the pedagogical core. These courses include study of the following: history of education and philosophy of education or principles of education or educational sociology; educational psychology or developmental psychology or psychology of adolescence or adolescent development; classroom management; teaching students with special needs and English language learners; 6 credits in literacy and language acquisition; curriculum development and methods of assessing student learning; uses of technology in the classroom; methods of teaching chemistry in grades 7–12; 100 hours of fieldwork; 40 days or 300 hours of student teaching of chemistry in grades 7–12, or one year of full-time teaching of chemistry in grades 7–12; and submission of scores on the L.A.S.T.;

(c) an undergraduate degree with a major in chemistry or appropriate course work in chemistry, and submission of scores on the L.A.S.T.

Applicants must have a minimum undergraduate scholastic index of 3.00. A minimum average of 3.00 in graduate courses is required to maintain matriculation.

Applicants who have not completed all the specific course requirements are given individual consideration and may be admitted with conditions, with the approval of the head of adolescence education and special subjects in the School of Education and the chairperson of the Chemistry Department.

International applicants for whom English is a second language are required to pass the Test of English as a Foreign Language (TOEFL) with a score of 550 before being considered for admission.

Applicants must consult matriculation requirements for adolescence education and special subjects in the School of Education section of the Bulletin, and should see the head of adolescence education and special subjects for counseling.

General matriculation and admission requirements of the Division of Graduate Studies are in the section "Admission."

Degree requirements

A minimum of 30 credits is required for the degree.

Students must complete 12 credits in courses in the Chemistry Department.

Six of the remaining 18 credits required for the degree may be taken in the Chemistry Department or in other science subjects directly related to chemistry.

Students must complete 12 credits in courses in the School of Education. Students take different education courses and sequences of courses depending on their previous course work, teaching experience, and the certificates they hold. Students who possess Initial Certification in teaching chemistry must complete 9 credits in Group II and 3 credits in Group III, below. Students who do not possess Initial Certification in teaching chemistry or equivalent course work and teaching experience or who are teaching but do not possess Initial Certification in teaching chemistry must have the appropriate course work and credits in the subject area and must complete the appropriate courses in Group I before taking courses in Groups II and III, below. Students pursuing Initial Certification in teaching chemistry must take ED 792.2X, Teaching Writing Across the Curriculum, in Group III. Students who already have a master's degree but wish Initial Certification in teaching chemistry must take appropriate courses in Group I and Group III below, as determined at the time of matriculation by the head of adolescence education and special subjects in the School of Education.

Group I: ED 742X, ED 792.1X, ED 763.04T, ED 764.5T, ED 723.04T, ED 764.5T.

Group II: ED 742.2T, ED 722.04T, ED 724.04T.

Group III: ED 716X, ED 721.04T, ED 726.1X, ED 731.3T, ED 751.2T, ED 784.2X, ED 792.2X, ED 792.4X/ENG 779X, ED 796X/THE 741, ED 799.5X.

Students are required to pass a comprehensive examination. Information about requirements for the comprehensive examination is in the section "Academic Regulations and Procedures."

Courses in the Chemistry Department or other science departments and the School of Education offered toward the degree must be 700-level courses.

The program of study must be approved early in the first semester by the chairperson or the deputy chairperson of the Chemistry Department and the head of adolescence education and special subjects in the School of Education.

CUNY Ph.D.

The City University of New York offers doctoral programs in chemistry and biochemistry. General information about CUNY Ph.D. programs is in the chapter "About Brooklyn College."

The Chemistry Department offers research and laboratory work at Brooklyn College that is creditable toward the

CUNY doctoral degree. For information about the courses, students should consult the graduate deputy chairperson of the Chemistry Department and the executive officer of the doctoral program.

Sigma Xi

Sigma Xi, the Scientific Research Society, encourages original investigation in the natural sciences, pure and applied. The fields of activity of the society include the physical sciences, the life sciences, the earth sciences, and mathematics. The Brooklyn College Chapter elects students to associate membership in the society on the basis of academic excellence and marked aptitude for research in one of the fields listed above.

Courses

Registration for courses numbered 700 and higher requires permission of the deputy chairperson before registration.

Unless a prerequisite is specific, students may apply graduate or undergraduate courses toward fulfillment of that prerequisite.

The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

605T Chemistry for Secondary School Teachers

45 hours; 3 credits

Elementary study of theories of chemistry including organic, inorganic, and physical chemistry. This course is for students who plan to teach science in high school. (Not open to matriculants in the M.A., Teacher Education Program, secondary education in chemistry.)

Prerequisite: two terms of general chemistry.

700.1G, 700.2G, 700.3G Thesis Research

Minimum of 45 hours laboratory and conference each term; 2 credits each term

Research for master's thesis supervised by a faculty member. Credit is not earned until the thesis is accepted. Laboratory hours to be arranged.

705.1G, 705.2G, 705.3G Seminar

30 hours each term; 2 credits each term

Topics selected from various branches of chemistry. Seminars consist of library research and discussion of literature on selected topics or presentation of experimental methods and results.

710G Advanced Inorganic Chemistry

45 hours; 3 credits

Theoretical and experimental fundamentals of atomic and molecular structure. Emphasis on physical interpretation.

Prerequisite: two terms of physical chemistry.

750G Advanced Organic Chemistry

45 hours; 3 credits

Fundamentals of organic chemical principles, reactions, structures, and mechanisms.

Prerequisite: two terms of organic chemistry.

757.1G Biochemistry

45 hours lecture; 3 credits

Properties and reactions of compounds of biological importance. Enzyme kinetics. Biological membranes. DNA replication and repair.

Prerequisite: two terms of organic chemistry.

758.1G Advanced Biochemistry

45 hours lecture; 3 credits

Common metabolic pathways. Reaction mechanisms and regulation of principal biological pathways. Biochemistry of metabolic disorders with clinical implications.

Prerequisite: Chemistry 757.1G.

760G Quantum Chemistry

45 hours; 3 credits

Foundations of quantum mechanics with applications to atomic and molecular structure.

Prerequisite: two terms of physical chemistry.

770G Chemical Thermodynamics

45 hours; 3 credits

Development of the thermodynamic foundations of chemical processes using classical and statistical-mechanical approaches.

Prerequisite: two terms of physical chemistry.

780G Special Topics in Chemistry

45 hours; 3 credits

Lectures on selected topics or recent advances.

790G, 791G Basic Laboratory Techniques for Research

30 hours lecture, 90 hours laboratory each term; 5 credits each term

Theories and application of modern approaches to the solution of chemical problems.

795.1G, 795.2G, 795.3G Introduction to Laboratory Research

60, 90, 120 hours laboratory, respectively; 2, 3, 4 credits, respectively

For students who want to explore the feasibility of different research problems before choosing a thesis topic. Students may work with one or more research supervisors during the term.

The following courses are inactive and will be offered only if there is sufficient demand:

731G Surface Chemistry**733G Environmental Chemistry****737G Polymer Chemistry**

Classics

Office: 2408 Boylan Hall
Telephone: 951-5191

Chairperson: Edward M. Harris

Programs leading to a master of arts degree and a doctor of philosophy degree in classics are offered by the City University of New York at the Graduate School and University Center. Information about the program is in the *Bulletin* of the Graduate School and University Center. General information about CUNY Ph.D. programs is in the chapter "About Brooklyn College."

The following courses are offered for students in other fields.

Costas Memorial Classics Library 2405 Boylan Hall

The library contains a noncirculating collection of more than 1,000 volumes of Greek and Latin texts and texts on classical topics donated by the late Professor Procopé S. Costas and other members of the Classics Department. The library is open to students and faculty members for research whenever classes are in session and the library is not in special use.

Summer Latin/Greek Institute

In the summer Latin/Greek Institute, Brooklyn College and the City University Graduate School offer college-level work in language and literature. In the intensive eleven-week program, qualified students earn 12 undergraduate credits; the credits are not applicable toward a graduate degree. No previous knowledge of Latin or Greek is required.

The Latin curriculum consists of study of forms and grammar, reading and analysis of representative texts from archaic remains through the Renaissance, and study of classical or medieval Latin literature. The Greek curriculum consists of language study and reading and analysis of representative texts in Attic, Ionic, and Koine Greek.

Computer and Information Science

Office: 2109 Ingersoll Hall
Telephone: 951-5657, 951-5659

Chairperson: Aaron M. Tenenbaum

Deputy Chairperson, CLAS: Yedidyah Langsam

Deputy Chairpersons, Division of Graduate Studies: Keith Harrow (Administrative) and Danny Kopec (Counseling)

Professors: Arnow, Augenstein, Bar-Noy, Eskicioglu, Gurwitz, Harrow, Langsam, Parikh, Raphan, Tenenbaum, Weiss, Whitlock, Zachos, Ziegler;

Associate Professors: Cox, Dexter, Jones, Kopec, Parsons, Rudowsky, Scarlatos, Schnabolk, Thurm, Zhou;

Assistant Professors: Chopra, Clark, Cogan, Goyal, Sokol, Yanofsky, Yarmish.

The Department of Computer and Information Science offers a master of arts degree program in computer and information science, and a master of science degree program in information systems.

The master of science degree program in computer science and health science (cosponsored by the Department of Health and Nutrition Sciences) is no longer accepting new students.

The Department of Computer and Information Science also participates in the advanced certificate program in performance and Interactive Media Arts (PIMAC).

M.A. in computer and information science HEGIS code 0701

Matriculation requirements

General matriculation and admission requirements of the Division of Graduate Studies are in the section "Admission." Applicants are required to take the Graduate Record Examination (GRE) General exam.

Degree requirements

Thirty to 53 credits are required for the degree.

Students must complete courses in Group I and Group II.

Students must maintain a minimum grade point average of 3.00 in those Group I courses which they are required to take; students must maintain a minimum grade point average of 3.00 in Group II courses.

Group I: Computer and Information Science 601X, 604.1X, 611X, 615X, 622X, 627X; two terms of undergraduate calculus or Mathematics 607X.

Students with some background in computer and information science (either academic or professional) may apply to the department for waivers of specific courses. Normally, students with an undergraduate degree in computer and information science will be exempt from all courses in Group I. Students exempt from Group I courses will not be required to take other courses to make up any specific number of credits.

Group II: Students must complete 30 credits in courses numbered 700 and above, including at least three courses labeled with an asterisk (*) and at least one course from each of the following five groups:

1. Computer and Information Science 704X, 705X, 707X, 708X, 719.3X;
2. Computer and Information Science 714X, 714.1X, 715X;
3. Computer and Information Science 716X, 716.5X, 717.1X, 718X, 741X, 757X;
4. Computer and Information Science 722X, 724X;
5. Computer and Information Science 742.1X, 743X, 747X, 748X, 749X.

Up to 10 credits in courses in other departments may be substituted, with the permission of the deputy chairperson.

Graphics/Multimedia concentration: Students who wish to have a concentration in graphics/multimedia should take any three of the following courses as part of their program in satisfying the degree requirements: Computer and Information Science 741X, 741.1X, 751X, 752X, 753G, 769X.

Students must complete one of the following: (a) Computer and Information Science 799.1G and a thesis acceptable to the department; no more than 6 credits in thesis research may be counted toward the degree; or (b) pass a written comprehensive examination.

As an exception to the general college rule, the comprehensive examination in the Department of Computer and Information Science may be taken in the term preceding the one in which the student will complete all course requirements for the degree. However, all other college regulations concerning the comprehensive examination still apply. Students are strongly advised to take advantage of this exception and to take the comprehensive examination in the earlier semester.

M.S. in information systems

HEGIS code 0702

The M.S. program in information systems has a two-tiered curriculum designed to accommodate a range of students from those with little or no background in computer science/information systems to those who have majored in computer and information science as undergraduates.

Matriculation requirements

General matriculation and admission requirements of the Division of Graduate Studies are in the section "Admission." Applicants are required to take the Graduate Record Examination (GRE) General exam.

For all students, a grade point average of 3.00 or higher in their undergraduate major will be required for admission to the program.

Degree requirements

Thirty-six to 65 credits are required for the degree.

Students without sufficient preparation must complete

courses in Group I; all students must complete at least 36 credits in Group II.

Group I: Computer and Information Science 601X, 604.1X, 605X, 611X, 615X, 622X, 627X; a course in calculus and a course in probability and statistics.

Students with some background in computer and information science (either academic or professional) may apply to the department for waivers of specific courses in this group. Normally, students with an undergraduate degree in computer and information science will be exempt from all courses in Group I. Students exempt from Group I courses will not be required to take other courses to make up any specific number of credits.

Group II: (a) The following courses are required: Computer and Information Science 704X, 717.1X, 742.1X, 757X, 763X, 765X.

Students who have completed an undergraduate course in the area of one or more of these courses may, with the permission of the department, substitute another 700-level course in the department for each such course.

(b) Two courses chosen from among CIS 709.2X, 716X, 716.5X, 718X, 719.3X, 726.1X and 764X.

(c) One of Computer and Information Science 743X, 748X or 749X.

(d) Either Computer and Information Science 758X or 759X.

(e) Six additional credits in courses numbered 700 or above in the department; with the permission of the deputy chairperson, these credits may be in other departments (e.g., economics, mathematics, or psychology).

(f) Students must do one of the following:

- (1) complete Computer and Information Science 799.1G, Thesis Research, and a thesis acceptable to the department; or
- (2) pass a written comprehensive examination.

As an exception to the general college rule, the comprehensive examination in the Department of Computer and Information Science may be taken in the term preceding the one in which the student will complete all course requirements for the degree. However, all other college regulations concerning the comprehensive examination still apply. Students are strongly advised to take advantage of this exception and to take the comprehensive examination in the earlier semester.

M.S. in computer science and health science

HEGIS code 0799

Matriculation requirements

Applicants must offer at least 18 credits in undergraduate or graduate courses in health and nutrition sciences and/or health-related fields.

General matriculation and admission requirements of the Division of Graduate Studies are in the section "Admissions."

Degree requirements

Thirty to 52 credits are required for the degree.

Students must complete courses in Group I and Group II.

Group I: All of the following:

Computer and Information Science 601X, 604.IX, 615X, and 622X; and Mathematics 607X and 652X.

Students with some background in computer and information science and statistics (either academic or professional) may apply to the Department of Computer and Information Science for waivers of specific courses. Normally, students with a strong undergraduate background in computer and information science will be exempt from all courses in Group I. Students exempt from Group I courses will not be required to take other courses to make up any specific number of credits.

Group II: All of the following:

1. One course chosen from Computer and Information Science 713X, 714X, 763X, 764X, and 765X;
2. Two courses chosen from Computer and Information Science 710X, 717.IX, and 757X;
3. One additional Computer and Information Science course numbered 700 or above;
4. Health and Nutrition Sciences 771X, 775X, and 791X;
5. One additional Health and Nutrition Sciences course numbered 700 or above;
6. Computer and Information Science 777X or Health and Nutrition Sciences 777X.
7. Students must also complete one of the following:
 - (a) Computer and Information Science 799.1G and 799.2G and a thesis acceptable to the Department of Computer and Information Science; or
 - (b) Health and Nutrition Sciences 780X and a thesis or project acceptable to the Department of Health and Nutrition Sciences; or
 - (c) Pass a written comprehensive examination.

B.S.-M.P.S. in economics and computer and information science HEGIS code 2204

Brooklyn College offers a bachelor of science–master of professional studies degree program in economics and computer and information science. This program is described in the Brooklyn College Undergraduate Bulletin. Entry is at the undergraduate level.

CUNY Ph.D.

The City University of New York offers a doctoral program in computer science. General information about CUNY Ph.D. programs is in the chapter "About Brooklyn College."

The Computer and Information Science Department offers courses at Brooklyn College that may be credited toward the CUNY doctoral degree with permission of the executive officer of the doctoral program. For information about the courses, students should consult the deputy chairperson of

the Computer and Information Science Department and the executive officer of the doctoral program.

Courses

Unless a prerequisite is specific, a student may apply graduate or undergraduate courses toward fulfillment of that prerequisite.

***Students completing the requirements of Group II for the M.A. in computer and information science must complete at least three courses labeled with an asterisk, as stated under "Degree requirements."**

The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

601X Intensive Introduction to Computing Using C

60 hours; 4 credits

Algorithms, programs, and computers. Writing, debugging, and verifying programs. Data representation and control structures. Arrays, pointers, and structures. Loops, functions, and other control structures. Programming applications selected from the areas of statistics, business, science, and social science. History and basic concepts of computer science. Substantial programming required.

604.IX Assembly Language Programming for Microcomputers

45 hours; 3 credits

An introduction to assembly language programming for microcomputer systems. CPU architecture. Registers. Segmentation. Instruction formats and addressing modes. Instruction sets and programming. Directives and operators. Modular programming. Macros. String manipulation. Character codes. Arithmetic programming. (Not open to students who have completed Computer and Information Science 604X).

Prerequisite: Computer and Information Science 601X or an introductory programming course.

605X Microcomputers for Business and Administration

45 hours; 3 credits

Introduction to the use of microcomputers in business and administration. Electronic spreadsheets, database software, word processing packages. Introduction to programming on a microcomputer. Computer applications in business and office administration. Comparison of hardware and software packages.

611X Discrete Structures

45 hours; 3 credits

Elementary set theory, functions, relations, and Boolean algebra. Switching circuits, gating networks. Definition and analysis of algorithms. Applications of graph theory to computer science. Related algorithms. Introduction to combinatorial

computing and counting arguments. Introduction to error analysis.

Prerequisite: Computer and Information Science 601X or an introductory programming course.

615X C Programming and Introduction to Data Structures

45 hours; 3 credits

A second course in programming. Advanced programming techniques emphasizing reliability, maintainability, and reusability. Module design and multifile programs. Abstract data types. Addresses, pointers, and dynamic storage allocation. Test suites, test drivers, and testing strategies; debugging and assertions. An introduction to formal techniques. Recursion and function parameters. This course requires a substantial amount of programming. (Not open to students who are enrolled in or have completed Computer and Information Science 616X.)

Prerequisite: Computer and Information Science 601X.

622X Data Structures

60 hours; 4 credits

Intensive study of advanced nonnumerical programming techniques. Data representation, list, tree, and string manipulation algorithms. Data structures in programming languages. Comparative efficiency of algorithms. Storage management algorithms. Sequential file processing. This course requires a substantial amount of programming. (Not open to students who have completed a course in data structures.)

Prerequisite: Computer and Information Science 615X.

627X Intensive Introduction to Computer Organization

45 hours; 3 credits

Graphical, tabular, and algebraic notations of basic combinational and sequential circuits. Binary-string representations of digits, numerals, and characters. Notations for the description of hardware algorithms. Concept of a bus. Design of a central processor unit; an instruction set, the hardware algorithms for fetching and executing instructions, and graphical designs of a data processing unit and a control unit. Designs of hardwired and microprogrammed control units. Arithmetic algorithms, memory organization, I/O organization. Other advanced topics and alternative machine organizations.

Prerequisite: Computer and Information Science 604X or 604.1X, and 611X.

704X Operating Systems I

37½ hours plus conference and independent work; 3 credits
Organization and programming of executive control systems. Batch processing, multiprogramming, multiprocessing, and time-sharing systems. File system organization and management. Access and protection control. Resource allocation. Control

systems languages. Mathematical models of computer systems. This course requires a substantial amount of programming. (Not open to students who have completed a course in operating systems.)

Prerequisite: Computer and Information Science 622X or a course in data structures; and Computer and Information Science 627X or an undergraduate course in computer organization.

***705X Operating Systems II**

37½ hours plus conference and independent work; 3 credits

Study of the more advanced aspects of operating systems with emphasis on overall design and system structure. Asynchronous operation and interprocess communication. Network operating systems. Debugging and verification.

Prerequisite: Computer and Information Science 704X or a course in operating systems.

707X Compiler Construction

37½ hours plus conference and independent work; 3 credits

Systems design of higher-level languages and their processors. Comparison and analysis of programming language structures and dialects. Syntax description, parsing algorithms and their implementation. Representation of semantics and semantic analysis. Object code generation and optimization. Bootstrapping techniques, higher-level translators, and self-compilers. This course requires a substantial amount of programming. (Not open to students who have completed a course in compiler construction.)

Prerequisite: Computer and Information Science 604X or 604.1X or a course in assembly language; and Computer and Information Science 622X or a course in data structures.

***708X Programming Languages and Compilers**

37½ hours plus conference and independent work; 3 credits

In-depth study of major features of programming languages and how they are implemented by compilers. Survey of syntax structures, lexical and semantic analysis. Role of finite automata and regular expressions in language design. Parsing techniques and parse tables. Code generation, optimization, and error detection and recovery.

Prerequisite: Computer and Information Science 707X or a course in compilers.

***709X Programming Language Design**

37½ hours plus conference and independent work; 3 credits

An advanced course covering the major issues associated with the design and implementation of programming languages: the functional vs. the imperative language, very high-level languages, syntax issues, methods of defining semantics, strong vs. weak typing, extensibility, verification, exception handling, concurrency constructs. The course will not be a survey of existing languages; rather, the emphasis will be on recent and current controversies concerning

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programming languages in general.

Prerequisite: Computer and Information Science 707X or a course in compilers.

*709.IX Functional Programming Languages

37½ hours plus conference and independent work; 3 credits

Backus's algebra of functional programs. The functional programming languages UNIX FP, ML, HOPE, IFP, and FL.

Syntax and semantics of functional programming languages.

Machine architectures for functional programming. Specialized specification and symbolic simulation of functional programs.

Prerequisite: Computer and Information Science 611X or a course in discrete structures; and one of the following:

Computer and Information Science 724X, a course in formal languages, or a course in programming languages.

*709.2X Object-Oriented Programming

37½ hours plus conference and independent work; 3 credits

Object-oriented programming concepts and techniques: data abstraction and encapsulation, classes, inheritance, overloading, polymorphism, interfaces. Introduction to and use of one or more object-oriented languages such as C++ or Smalltalk. An introduction to object-oriented design.

Prerequisite: one of the following: Computer and Information Science 704X, 705X, 707X, 708X, or 709X.

714X Analysis of Algorithms

37½ hours plus conference and independent work; 3 credits

Introduction to algorithms and their complexity, including models of computation. Review of data structures and techniques of efficient program design. Analysis of algorithms chosen from sorting and searching, graph theory, pattern matching, matrix operations, and combinatorial optimization. Algorithms will be analyzed for their space, time, and other resource requirements. NP-complete problems. Complexity classes.

Prerequisite: Computer and Information Science 622X or a course in data structures; and 611X or a course in discrete structures.

*714.IX Graph and Network Algorithms.

37½ hours, plus conference and independent work; 3 credits

Data structures to represent graphs. Graph traversal algorithms. Network algorithms. Algorithms for constructing minimum spanning trees, shortest paths, maximum flows, and Euler and Hamilton paths. Vertex and edge coloring algorithms. Computationally hard problems, NP-completeness, and approximation algorithms.

Prerequisite: Computer and Information Science 714X.

*714.5X Parallel Algorithms

37½ hours plus conference and independent work; 3 credits

Architectures for parallel machines. Theoretical models for parallel computation. The design of efficient parallel algorithms,

including graph algorithms, search algorithms, and algorithms for symbolic computation. Complexity considerations.

Prerequisite: Computer and Information Science 714X or a course in analysis of algorithms.

*715X Algorithms and Complexity

37½ hours plus conference and independent work; 3 credits

Definitions of P, NP, and NP-complete complexity classes and the relationship between these classes. Approximation algorithms and their efficiency. Other complexity classes. Current models and paradigms of computation. The P =? NP question is discussed and explored. Advanced topics from contemporary research.

Prerequisite: Computer and Information Science 714X or a course in analysis of algorithms.

716X Artificial Intelligence I

37½ hours plus conference and independent work; 3 credits

Techniques for making machines exhibit intelligent behavior. Topics covered are taken from the areas of problem solving, perception, game playing, knowledge representation, natural language understanding, programs that learn (adaptive programs), expert systems, and programming languages for work in artificial intelligence. This course requires a substantial amount of programming. (Not open to students who have taken an undergraduate course in artificial intelligence.)

Prerequisite: Computer and Information Science 622X or a course in data structures.

*716.5X Artificial Intelligence II

37½ hours plus conference and independent work; 3 credits

A second-level course in artificial intelligence. Topics discussed will be taken from the areas of knowledge representation, logic and logic programming, pattern-directed inference, reasoning with uncertain or unreliable knowledge, natural language processing, computer vision, machine architecture, and programming languages for artificial intelligence.

Prerequisite: Computer and Information Science 716X or a course in artificial intelligence.

717.IX Database Systems

37½ hours plus conference and independent work; 3 credits

Introduction to database systems. Comparison to file processing systems. Data models. Relational, hierarchical, and network systems. Database design. Normal forms. Study of several real-world database management systems, with an emphasis on microcomputer applications. Database recovery, query and transaction processing, concurrency. Distributed and object-oriented databases. This course requires a substantial amount of programming. (Not open to students who are enrolled in or have completed Computer and Information Science 45.)

Prerequisite: Computer and Information Science 622X; and 605X or knowledge of a database management system.

***718X Expert Systems**

37½ hours plus conference and independent work; 3 credits
 Study of systems that apply expertise in specific domains to make analyses and recommendations. The theory, design, and application of such systems will be discussed. Topics include: rule-based systems, inference engines, dealing with uncertainties, user interactions and knowledge engineering, knowledge acquisition, knowledge representation, induction and learning systems, limits of expert systems. Some current expert systems will be discussed. Students will build a simple expert system as a term project.

Prerequisite: Computer and Information Science 716X or a course in artificial intelligence.

719.IX Logic in Computer Science

37½ hours plus conferences and independent work; 3 credits
 Predicate calculus, semantics, models, proof systems and completeness theorems, Herbrand's Theorem, resolution-based theorem proving, applications to automated reasoning, applications to logic programming.

Prerequisite: Computer and Information Science 611X or a course in discrete structures; and 622X or a course in data structures.

***719.2X Logic Programming**

37½ hours plus conference and independent work; 3 credits
 Elementary formal systems and Post productions, unification algorithms, fixed-point semantics, Prolog interpreters and Prolog-oriented hardware, logic programming systems under development, applications to fifth-generation computing.
 Prerequisite: Computer and Information Science 719.IX or a course in mathematical logic.

***719.3X Declarative Programming**

37½ hours plus conference and independent work; 3 credits
 Functional, logic, and constraint programming paradigms and languages. Logic programming concepts: logic variables, unification, recursion, and backtracking. Constraint solving and constraint programming. Functional programming concepts: lambda calculus, pattern-matching, high-order functions, strong typing, polymorphism, and lazy evaluation. Declarative programming languages: Prolog, Haskell, and CLP (Constraint Logic Programming).

Prerequisite: Computer and Information Science 611X, 622X; 704X or 707X or 717.IX.

722X Introduction to Computability and Unsolvability

37½ hours plus conference and independent work; 3 credits
 Formal systems, propositional and quantification logic, theorem proving, equivalent characterizations of effective computability. Turing machines, recursive functions, and sets. Other notions of Gödel, Herbrand, Kleene, Church, Post, and Markov. Classification of unsolvable problems.

Prerequisite: an undergraduate course in formal language theory, automata theory, or computability; or Computer and Information Science 714X or a course in analysis of algorithms.

724X Formal Languages and Automata Theory

37½ hours plus conference and independent work; 3 credits
 Theory of grammars, regular grammars, context-free and context-sensitive grammars, recognizers. Models of computation, finite state machines, pushdown automata, random access stored program machines. Introduction to notions of category theory and its influences.

Prerequisite: an undergraduate course in formal language theory, automata theory, or computability; or Computer and Information Science 714X or a course in analysis of algorithms.

***725X Information and Computation**

37½ hours plus conference and independent work; 3 credits
 Introduction to Shannon's information theory. Data compression algorithms: Huffman, dictionary, and predictive approaches. Techniques for different data formats. Information theory and cryptology: theoretical limits. Basic concepts of cryptology. Classic cryptography and cryptanalysis. Modern cryptographic algorithms. Information and the information environment.

Prerequisite: Computer and Information Science 714X or 715X; and Mathematics 652X or a course in probability.

***729.IX Cryptosystems**

37½ hours plus conference and independent work; 3 credits
 Theoretic tools useful in the study of cryptography: number theory, algebra, probability, computational complexity. Tests for primality. Pseudo-random number generators. Public-key cryptosystems. Arthur-Merlin games and minimum-knowledge protocols.

Prerequisite: Computer and Information Science 722X or 724X.

732.IX Foundations of Cognitive Science

37½ hours plus conference and independent work; 3 credits
 Bases for intelligent behavior in humans, animals, and machines. Human and machine intelligence are compared with respect to visual perception, speech perception, language comprehension, learning, and other adaptive mechanisms. This course is the same as Psychology U752.2X.

Prerequisite: a course in probability and statistics; and knowledge of a high-level programming language such as C, Pascal, PL/I, or LISP.

***733X Natural-Language Processing**

37½ hours plus conference and independent work; 3 credits
 The study of natural-language processing including linguistic theory, the formal theory of languages, and psycholinguistic investigations into human natural-language processing, both

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from the point of view of modeling human processing and of developing practical systems for machine processing of natural-language material. This course is the same as Psychology U752.3G.

Prerequisite: Computer and Information Science 622X or a course in data structures.

741X Computer Graphics: Software System Design

37½ hours plus conference and independent work; 3 credits

Design of languages and software systems for computer graphics. Elementary raster and vector graphics primitives. Device independent graphics. Geometrical concepts. Internal representation. Transformations. Modeling. Three-dimensional considerations. Pictorial realism. Hierarchical program structure. Alternative approaches.

Prerequisite: Computer and Information Science 622X or a course in data structures.

***741.IX Algorithms for Computer Graphics**

37½ hours plus conference and independent work; 3 credits

Survey of nonnumerical and seminumerical algorithms of computer graphics. Underlying hardware concepts. Raster scan principles. Line and circle drawing algorithms. Graphic data compression. Character display. Polygon filling. 2D and 3D clipping. Polygon decomposition. Removal of hidden lines and surfaces. Shading and other rendering of illumination. Shape and pattern description.

Prerequisite: Computer and Information Science 741X or a course in computer graphics.

742.IX Computer Architecture

37½ hours plus conference and independent work; 3 credits

Digital circuits and logic design. Gates, registers, counters, bus transfer. The arithmetic unit and machine algorithms for high-speed arithmetic. The control unit. Memory design and the analysis of hierarchical memory systems and their management. Input-output and communication techniques. Microprogramming. Comparison of advanced systems including multiprocessors, stack machines, parallel and pipeline processors, associative computers.

Prerequisite: Computer and Information Science 627X or an undergraduate course in computer organization.

***743X Teleprocessing Systems**

37½ hours plus conference and independent work; 3 credits

Teleprocessing systems and concepts, communications terminology, types of networks, transmission properties, modems, types of terminals, codes, error-control procedures, multiplexing and concentration devices, access methods, network design and performance, security and reliability, backup and fault isolation, message routing, message queueing, message editing, intelligent nodes, virtual teleprocessing access methods.

Prerequisite: Computer and Information Science 704X or a course in operating systems; Computer and Information

Science 742.IX or a course in computer organization; and Mathematics 652X or a course in probability and statistics.

***744X Parallel and Distributed Systems**

37½ hours plus conference and independent work; 3 credits

A survey of the applications and implementations of parallelism in existing and proposed computing systems. Flynn's classification of computers. Multiprocessor systems, array processors, vector machines, computer clusters and web-computing. Languages for parallel and distributed systems. Operating system issues. Notations expressing concurrency. The semantics of concurrency. Verification rules. Standard problems.

Prerequisite: Computer and Information Science 704X or a course in operating systems.

***744.IX Programming Parallel Processors**

37½ hours plus conference and independent work; 3 credits

Programming techniques for parallel hardware configurations. Writing portable parallel code. Performance issues. Parallel architectures, parallel languages, and parallel algorithms.

Prerequisite: Computer and Information Science 704X or a course in operating systems; and Computer and Information Science 714X or a course in analysis of algorithms.

747X Microprocessors

24 hours lecture plus conference; 21 hours laboratory plus independent work; 3 credits

Introduction to microprocessor technology. History and applications. Microprocessor architecture: 8- and 16-bit processors. Examples of commercially available processors. Instruction sets and software development. Microprocessor memory sections. I/O sections and interfacing techniques. Interrupt systems. Single-chip microcomputers and bit-slice processors. Hands-on laboratory experiments. (Not open to students who have taken a graduate or undergraduate course in microprocessors.)

Prerequisite: Computer and Information Science 627X or an undergraduate course in computer organization.

***748X Local Area Networks**

37½ hours plus conference and independent work; 3 credits

Local area network (LAN) technology. Topologies and transmission media. LAN protocols. The IEEE 802 standard. High speed LANs. Optical fiber LANs. The FDDI standard. Circuit-switched LANs. LAN performance measurements. The network interface. Internetworking. Network design issues. Commercial systems.

Prerequisite: Computer and Information Science 704X or a course in operating systems; Computer and Information Science 742.IX or a course in computer organization; and Mathematics 652X or a course in probability and statistics.

***749X Computer Communication Networks**

3½ hours plus conference and independent work; 3 credits

Advanced concepts in computer organization and an introduction to the fundamental principles of computer communication networks. Network structure and architecture. The ISO Reference Model. Protocols and their software implementation. Point-to-point, satellite, radio, and local area networks. Routing, congestion, and flow control algorithms. Examples of current networks.

Prerequisite: Computer and Information Science 704X or a course in operating systems; Computer and Information Science 742.IX or a course in computer organization; and Mathematics 652X or a course in probability and statistics.

***751X Multimedia Computer Systems**

3½ hours plus conference and independent work; 3 credits

In-depth study of major issues and recent trends in multimedia. Multimedia systems architecture. Multimedia database systems, presentation systems, and conferencing systems. Multimedia file management and information models. Scheduling and synchronization. Data compression. Image analysis and content-based retrieval. Distributed multimedia. Authoring. Quality of service and multimedia systems design. Applications of multimedia systems. Students will read, report on, and implement techniques and ideas described in the current multimedia research literature.

Prerequisite: One of the following: Computer and Information Science 704X, 717.IX, 741X, 742.IX, 749X, 752X, 769X.

752X Multimedia Presentations

3½ hours plus conference and independent work; 3 credits

Design and implementation of multimedia presentations. Topics include hardware and software aspects of multimedia systems, standards of multimedia storage, compression techniques, authoring fundamentals, multimedia development and the Internet, and current research topics in multimedia-based applications. Students will build a multimedia application using prescribed authoring software.

Prerequisite: Computer and Information Science 622X or a course in data structures.

753G Advanced Digital Art

3½ hours plus conference and independent work; 3 credits

Techniques of incorporating viewer intervention into a perceptual environment. Interactive art possibilities and venues, including site-specific installations (custom interface design and physical computing) and network based work (VRML or Quicktime VR). This course is the same as Art 779G.

Prerequisite or corequisite: matriculation for the M.A. degree, art teacher (all grades), or matriculation for the M.F.A. degree in art, or Computer and Information Science 741X or 752X.

757X Introduction to Management Information Systems

3½ hours plus conference and independent work; 3 credits

The role of people, computers, and communications in management information systems. Feasibility studies. Analysis of information and processing requirements, processing methods, data management, and implementation strategies for on-line, database, and integrated systems and for control of operations. Models of decision making. Economics of information, methods of evaluating alternative courses of action.

Prerequisite: Computer and Information Science 717.IX.

758X Information Systems Planning and Policy

3½ hours plus conference and independent work; 3 credits

The information system (I/S) unit and function as a component of the overall organization. The use of I/S by organizations to gain competitive advantage. Alternative methods for positioning, structuring, and controlling information systems for effectiveness and efficiency. I/S planning strategies and methodologies; roles for steering committees. Emphasis on the strategic (or long-term) aspects of the I/S function, within the organization, in its dealing with suppliers, competitors, and customers/clients, and in its impact on society.

Prerequisite: Computer and Information Science 757X.

759X Information Systems Management

3½ hours plus conference and independent work; 3 credits

Management of the systems development, maintenance/enhancement, technical support, telecommunications, and operational functions of I/S, including project planning and control, make/buy analysis, and other methods of evaluating alternative courses of action; information systems portfolio assessment. Emphasis on the tactical (short-term) aspects of I/S.

Prerequisite: Computer and Information Science 757X.

760X Advanced Microcomputer Applications

3½ hours plus conference and independent work; 3 credits

A survey of advanced microcomputer administrative applications. Use and impact of microcomputer hardware and software. Integrated software and programming, networking, and the automated office. Ethical and societal impact of personal computing.

Prerequisite: Computer and Information Science 605X or a course in microcomputer applications.

***763X Software Methodology**

3½ hours plus conference and independent work; 3 credits
Techniques for the design, implementation, maintenance, and management of very large software systems. The relation between size and complexity. Goals and measurements. Design and implementation strategies. Testing, validation, and proofs of correctness. Language aspects. Design and implementation tools. Asynchronous and real-time systems. Project management.

Prerequisite: Computer and Information Science 704X or 707X or 713X or a course in operating systems or a course in compilers or a course in searching and sorting.

***764X Topics in Systems Simulation**

3½ hours plus conference and independent work; 3 credits
Techniques for the simulation of complex systems; simulation of computer systems. Random number generation, uniformly distributed random numbers, other distributions, tests of randomness. Statistical issues in simulation. Queueing theory. Poisson arrival process, various queue disciplines, single server and multiserver queues. Survey of simulation languages; GPSS and SIMSCRIPT. Simulation methodology.

Prerequisite: Computer and Information Science 622X or a course in data structures; and Mathematics 652X or a course in probability and statistics.

765X Systems Analysis and Design

3½ hours plus conference and independent work; 3 credits
Fundamental concepts of systems, principles of modeling, use of feedback, hierarchical structures, systems complexity and simplification. Database systems concepts, database design, analytical and experimental methods for computer systems analysis, system performance evaluation, throughput determination.

Prerequisite: Computer and Information Science 622X.

***767X Performance Evaluation of Computer Systems**

3½ hours plus conference and independent work; 3 credits
Performance measures and models. Introduction to stochastic processes. Basic queueing analysis. Performance measures of a queueing system. Priority queueing systems. Approximation techniques. Queueing models of computer systems: finite and infinite models. Multiple resource and multiaccess models. Data analysis. Total system analysis.

Prerequisite: Computer and Information Science 704X or a course in operating systems; Mathematics 607X or two terms of calculus; and Mathematics 652X or a course in probability and statistics.

768X Numerical Methods

3½ hours plus conference and independent work; 3 credits
Methods and techniques for solving scientific and mathematical problems on digital computers. Interpolation and approximation. Quadrature. Numerical solution of differential equations. Solution of linear and nonlinear systems. Fast Fourier transform. Computation of eigenvalues and eigenvectors. Error analysis. Emphasis on the machine implementation of numerical algorithms.

Prerequisite: a course in linear algebra and an elementary course in differential equations.

***769X Digital Signal Processing**

3½ hours plus conference and independent work; 3 credits
An introduction to discrete time signals and their spectral representation. The concept of sampling and the relationship between continuous signals and their representation on a digital computer. The design of computer algorithms using techniques of digital signal processing for application in digital filter design, digital picture processing, and speech recognition and synthesis.

Prerequisite: Mathematics 607X or two terms of calculus; and Computer and Information Science 714X or a course in analysis of algorithms.

***769.IX Robot Vision**

3½ hours plus conference and independent work; 3 credits
Introduction to the fundamentals of natural and computer vision. Image formation and the digital representation of images. Early vision and techniques of segmentation. Representation of shape and texture. Data structures for scene representation. Knowledge representation and its relation to image understanding.

Prerequisite: Computer and Information Science 734X or 769X.

777X Computer Applications in Health Sciences

45 hours; 3 credits

Use of computers in health-related fields. Understanding unique theoretical and practical applications to health science research, education, and clinical practice. Course includes projects tailored to the interests of individual students. This course is the same as Health and Nutrition Sciences 777X.

Prerequisite: one 700-level course in health and nutrition sciences and one 700-level course in computer and information science.

780.IX, 781.IX Seminar in Computer Science I, II

3½ hours plus independent work each term;
3 credits each term

Readings, discussions, and reports on topics in computer science.

Prerequisite of 781.IX: Computer and Information Science 780.IX.

***785.1X, *785.2X Advanced Seminar in Computer Science I, II**

3½ hours plus independent work each term;
3 credits each term

Readings, discussions, and reports on advanced topics in computer science.

Prerequisite of 785.2X: Computer and Information Science 785.1X.

790X, or 791X. 790X, 791X Research Project I, II

Minimum of 90 hours of independent work each term;
3 credits each term

Development of computer systems supervised by a staff member. Students work individually or in groups and are expected to prepare a detailed report describing the project and its contributions. Achievement is measured by demonstrable attainment of the project's goals.

Prerequisite of 790X: permission of the chairperson.

Prerequisite of 791X: Computer and Information Science 790X.

799.1G, 799.2G, 799.3G Thesis Research

Hours to be arranged; 2 credits each term

Research for the master's thesis supervised by a faculty member. No more than 6 credits may be counted toward the degree. Credit is not earned until the thesis is accepted.

Prerequisite: permission of the chairperson.

The following courses are inactive and will be offered only if there is sufficient demand:

**729X Methods of Program Verification
734X Pattern Recognition and Neural Networks**

Economics

Office: 218 Whitehead Hall

Telephone: 951-5317, 951-5101

Chairperson: Robert Bell

Deputy Chairperson, Division of Graduate Studies:

Emanuel D. Thorne

Deputy Chairperson, Division of Graduate Studies,

Accounting admissions: Moishe Zelcer

Deputy Chairperson, Division of Graduate Studies,

Accounting programs: Kreindel C. Giladi

Deputy Chairperson, Division of Graduate Studies,

Economics programs: A. Merih Uctum

Deputy Chairperson, Division of Graduate Studies,

Business program: Clifton Clarke

Deputy Chairperson, CLAS: Hershey H. Friedman

Deputy Chairperson, SGS: Taiwo L. Amoo

Professors: Bell, Clarke, Friedman, Laibman, Sardy, Solomon;

Associate Professors: Amoo, Davidoff, Giladi, Goldberg, Klein, Langbert, McTague, Testa, Thorne, Uctum, Widman, Zelcer.

Assistant Professor: López-Pumarejo

M.A. in economics HEGIS code 328

Admission requirements

Applicants must have 15 credits in undergraduate courses in economics, including macroeconomics; microeconomics; statistics; and mathematical methods in economics (or one year of calculus).

General admission and matriculation requirements of the Division of Graduate Studies are in the sections "Admission" and "Academic Regulations and Procedures."

Degree requirements

Thirty-three credits are required for the degree.

Students must complete at least 24 credits in the Economics Department. The following courses are required: Economics 710X, 720X, 725.1X, 700X, 721X. With permission of the graduate deputy chairperson, up to nine credits may be taken in appropriate courses in other departments.

All students must pass a comprehensive examination (offered twice each year).

With permission of the graduate deputy chairperson, up to 12 credits may be accepted for work done at other institutions.

Optional Thesis: Students who complete all their required economics courses with grades of A or B may elect to write a master's thesis, with an Economics Department faculty member serving as mentor. Students choosing to write a thesis must obtain permission from the graduate deputy chairperson; may register for Economics 782G (Independent Reading); and must register for Economics 783G (Thesis Research). Three to 6 credits are thereby earned in connection with the writing of a master's thesis.

**M.A. in economics: accounting—Track A
HEGIS code 330**

The specialization in accounting described below has been registered by the New York State Education Department

as meeting the graduate education requirements under "Track A" of the professional accounting curriculum. (These regulations are administered by the State Board for Public Accountancy.) A student who completes this curriculum, passes the C.P.A. examination, and presents one year of New York State—accepted experience in the practice of public accountancy qualifies for the C.P.A. license. Commencing August 1, 2004, New York State has adopted a 150 semester-hour requirement to sit for the C.P.A. examination. The current program as revised (see below, M.A. in economics: accounting—C.P.A. qualifying) will comply with the 150 semester-hour requirement.

Admission requirements

Applicants must offer a bachelor's degree in the field of accounting, taken at a U.S. university or the equivalent, and including sufficient credits in accounting and other subject areas to meet the New York State undergraduate educational requirements for the C.P.A. license. Students should consult the Department of Economics if further information is needed about the undergraduate requirements. Because of New York State Regents requirements, holders of a foreign undergraduate degree generally cannot be admitted to the accounting specialization without considerable additional undergraduate preparation.

Degree requirements

Thirty-three credits are required for the degree.

Students must complete the following courses in the subject areas indicated:

Accounting: Accounting 706X, 707X, and 708X.

Economic analysis: one of the following: Economics 700X, 705X, 710X. Students who have not taken Economics 725.1X or a comparable undergraduate mathematics course are advised to take Economics 705X.

Finance: Economics 711X.

Quantitative methods: Economics 720X and one of the following: Economics 721X, 722X, 725.2X.

Additional courses in the Economics Department to complete the required total of 33 credits. The following courses in accounting, law, and business are recommended: Accounting 711X, 712X, 713X, 714X, and Business 700X. With permission of the graduate deputy chairperson, up to 9 credits may be taken in appropriate courses in other departments.

All students must pass a comprehensive examination (offered twice each year).

With permission of the graduate deputy chairperson, up to 12 credits may be accepted for graduate work done at other institutions.

Optional Thesis: Students who complete Accounting 706X, 707X, and 708X with grades of A or B may elect to write a master's thesis, with an Economics Department faculty member serving as mentor. Students choosing to write a

thesis must obtain permission from the chairperson or the chairperson's designee; may register for Accounting 782G (Independent Reading); and must register for Accounting 783G (Thesis Research). Three to 6 credits are thereby earned in connection with the writing of a master's thesis.

M.A. in economics: accounting (C.P.A. qualifying)

HEGIS code 0502

Commencing August 1, 2004, New York State has adopted a 150 semester-hour educational requirement to sit for the Certified Public Accounting examination.

This program, which subsumes the revised B.S. degree in accounting (public accountancy), or its equivalent, as an admission requirement, is registered with the New York State Education Department as meeting the 150 semester-hour requirement (under "Alternative A" of Commissioner's Regulation 52.13). Students who complete this program will be permitted to sit for the C.P.A. examination in New York State.

Admission requirements

General admission requirements of the Division of Graduate Studies are in the section "Admission." In order to satisfy the regulations of the New York State Education Department and the State Board for Public Accountancy, this program requires extensive preparation in the areas of professional accountancy and general business. Applicants who have completed the bachelor of science degree in accounting (public accountancy) at Brooklyn College satisfy the undergraduate education requirements of this program. Students who have earned a bachelor's degree at another institution should consult the graduate deputy chairperson for an evaluation of their undergraduate preparation. Holders of foreign undergraduate degrees as well as those with minimal accounting and business preparation generally cannot be admitted to this program without considerable additional course work.

Degree requirements

Thirty-three credits are required for the degree.

Within the 150 semester-hour C.P.A. requirement, students must complete at least 60 credits in liberal arts and sciences courses. This requirement may be satisfied through a combination of undergraduate and graduate level courses.

Students must complete the following courses:

Accounting: All of the following: Accounting 706X, 707X, and 708X.

One of the following: Accounting 711X, 712X, 713X, 714X, 781X.

Economic analysis: one of the following: Economics 700X, 705X, 710X. Students who have not taken Economics 725.1X or a comparable undergraduate mathematics course are advised to take Economics 705X.

Organizational behavior: Business 700X.

Finance: Economics 711X.

Quantitative methods: Economics 720X and one of the following: Economics 721X, 722X.

Additional courses in the Economics Department to complete the required total of 33 credits. The following courses are recommended: Accounting 711X, 712X, 713X, and 714X. With permission of the graduate deputy chairperson, up to 6 graduate credits may be taken in courses in other departments and up to 12 graduate credits may be accepted for work done at other institutions.

All students must pass a comprehensive examination (offered twice each year).

Optional thesis: Students who complete Accounting 706X, 707X, and 708X with grades of B or better in each course may elect to write a master's thesis. An Economics Department faculty member serves as mentor. Students electing to write a thesis must obtain permission from the chairperson or the chairperson's designee; may register for Accounting 782G (Independent Reading); and must register for Accounting 783G (Thesis Research). Three to 6 credits are thereby earned in connection with the writing of a master's thesis.

B.S.-M.P.S. in economics and computer and information science HEGIS code 2204

Brooklyn College offers a bachelor of science–master of professional studies degree program in economics and computer and information science. The program is described in the Brooklyn College Undergraduate Bulletin. Entry is at the undergraduate level.

CUNY Ph.D.

The City University of New York offers a doctoral program in economics. General information about CUNY Ph.D. programs is in the chapter "About Brooklyn College."

Economics Department courses may be credited toward the CUNY doctoral degree with permission of the executive officer of the doctoral program. For information, students should consult the deputy chairperson of the Economics Department and the executive officer of the doctoral program.

Nathan Schmukler Investment Library 202 Whitehead Hall

The newly refurbished library, donated by alumni, contains the latest electronic technology, which provides instantaneous access to data on publicly held corporations, the stock markets, and commodities exchanges as well as economic forecasting indexes. The library is the site for the extensive tutoring program sponsored by the Economics Department and contains self-tutoring materials that supplement that function.

Courses

The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

700X Microeconomics

30 hours plus conference; 3 credits

Supply and demand analysis. Economics of households and firms. Determination of product and factor prices under different market structures. Capital theory and welfare economics. Spring term.

Prerequisite: Economics 710X and 725.IX, or the equivalent.

705X Managerial Economics

30 hours plus conference; 3 credits

An introduction to microeconomic concepts—demand, cost, profit, pricing strategies, forecasting—with applications to managerial decision making. (Not open to students who have completed Economics 700X.)

710X Macroeconomics

30 hours plus conference; 3 credits

Factors determining the level of national income, output, and employment. Consideration of business cycle theories and of public and private policies to stabilize employment and prices. Fall term.

711X Money and Capital Markets

30 hours plus conference; 3 credits

Sources and uses of funds in financial markets. Market structure of interest rates. Flow of funds analysis.

Prerequisite: admission to the accounting specialization or permission of the graduate deputy chairperson.

711.IX Evolution of Modern Economic Thought

30 hours plus conference; 3 credits

Ideas from medieval times to the nineteenth century. English classical doctrine and variants. Critical schools and reformers.

713X Government Finance

30 hours plus conference; 3 credits

Economic problems and issues in federal, state, and local government finance. Evaluation of budgetary concepts and procedures. Analysis of the impact of taxation, government borrowing, and expenditures on resource use and on distribution of income and wealth.

Prerequisite: one undergraduate course in macroeconomics and one undergraduate course in microeconomics.

Prerequisite or corequisite: Economics 725.IX.

715X Current Problems in Monetary and Fiscal Policy

30 hours plus conference; 3 credits

Recent developments and current practices in the monetary and fiscal system. Their effects on money stock, money flows, and the liquidity of the economy. Modern ideas of monetary management, techniques of central banking, public debt management, relevant tax and expenditure policies of government. Potential contribution of monetary and fiscal

policy to economic growth and to general problems of stability of employment, income, and price levels.

Prerequisite: one undergraduate course in macroeconomics and one undergraduate course in microeconomics.

Prerequisite or corequisite: Economics 725.IX.

720X Economic Statistics I

30 hours plus conference; 3 credits

Review of descriptive statistics, random variables, probability distributions, estimation and hypothesis testing. Introduction to simple and multiple regression analysis, and analysis of variance. Applications to economics. Fall term.

721X Economic Statistics II

30 hours plus conference; 3 credits

Assumptions and estimation of the classical regression model. Heteroscedasticity, serial correlation, distributed lags, and other single-equation issues and problems. Introduction to simultaneous equation models and methods. Applications to economics. Spring term.

Prerequisite: Economics 720X or the equivalent.

722X Operations Research

30 hours plus conference; 3 credits

Tools and techniques of operations research. Linear programming, inventory and queuing theory, applications of input-output methods. It is recommended that students complete Economics 720X and 725.IX, or their equivalents, before taking this course.

725.IX Mathematical Methods in Economics I

30 hours plus conference; 3 credits

Intended for economics students with little or no preparation in calculus. Mathematical topics frequently used in economics selected from matrix algebra, differential calculus, and partial differentiation. Development of mathematical concepts in the context of economic models. Relation of mathematical methods to their application in economics. Fall term.

725.2X Mathematical Methods in Economics II

30 hours plus conference; 3 credits

Similar to Economics 725.IX. Study of mathematical tools chosen from integral calculus, elementary difference, and differential equations.

Prerequisite: Economics 725.IX or the equivalent background in mathematics.

727X International Trade

30 hours plus conference; 3 credits

Gains from trade, absolute and comparative advantage, and the determination of patterns of trade. The classical model, the endowment model, and the specific factor model. Imperfect competition and government policies as determinants of trade. Increasing returns to scale. Trade and factor movements in the international economy. Empirical

tests of trade models. Tariffs, nontariff barriers, administered protection. Quotas, and other nontariff barriers. Effects of trade policies on employment, prices, income distribution, and national economic welfare. Case studies.

Prerequisite: one undergraduate course in macroeconomics and one undergraduate course in microeconomics.

Prerequisite or corequisite: Economics 725.IX.

728X International Economics and Finance

30 hours plus conference; 3 credits

The foreign exchange market, international financial markets, and the determination of the equilibrium exchange rate.

Price levels and the exchange rate in the long run; output and the exchange rate in the short run. Foreign exchange intervention. Capital mobility. Monetary and asset market approach to the balance of payments. International macroeconomic policy and the international monetary system.

Prerequisite: one undergraduate course in macroeconomics and one undergraduate course in microeconomics.

Prerequisite or corequisite: Economics 725.IX.

730X Analysis of Developed Areas

30 hours plus conference; 3 credits

Factors responsible for differences in rates of economic growth in developed areas.

735X Comparative Economics Systems

30 hours plus conference; 3 credits

Capitalism and other methods of organizing economic activity. Emphasis on the price system and central planning.

772X Health Economics

30 hours plus conference; 3 credits

Economic analysis of the structure, performance, and government policy in the health care sector of the economy. Demand and supply of health care services, the role of third party payers, and the public policy debate over government reform of the health care system. Microeconomic, econometric, and political philosophy concepts relevant to issues of justice in health care. This course is the same as Health and Nutrition Sciences 772.5X.

781X Special Topics

30 hours plus conference; 3 credits

Topics vary from term to term. Students may take this course two times, but may not repeat topics.

Prerequisite: permission of the graduate deputy chairperson.

782G Independent Reading

Minimum of 135 hours of independent work and conference; 3 credits

Independent research, supervised by a member of the department. This course may be used as a stage in the preparation of a master's thesis.

Prerequisite: completion of Economics 710X, 720X, 725.IX, 700X, and 721X with grades of A or B in all courses; and permission of the graduate deputy chairperson.

783G Thesis Research

Hours to be arranged; 3 credits

Research for master's thesis supervised by a faculty member. Students register for this course only once.

Prerequisite: completion of Economics 710X, 720X, 725.IX, 700X, and 721X with grades of A or B in all courses; and permission of the graduate deputy chairperson.

The following courses are inactive and will be offered only if there is sufficient demand:

711.3X Introduction to Marxian Economic Analysis

717X Social Security and Related Programs: The Public Sector

718X Economics of Human Resources and Labor Markets

720.IX Econometrics I

731X Analysis of Underdeveloped Areas

750X Industrial Organization and Control

760X Labor Economics

774X Economics of Urban Areas

775X Economics of Environmental Protection Resource Conservation

Accounting

Accounting 701X Financial and Managerial Accounting

45 hours plus conference; 3 credits

Intensive study of accounting principles and managerial applications to introduce students specializing in fields other than accounting to basic analytic tools of corporate financial reporting and firm decision making. (Not open to students who have completed more than 6 credits in accounting courses. (Not open to students who have completed Economics 701X.)

Accounting 706X Enterprise Income Determination

30 hours plus conference; 3 credits

Asset valuation and related problems of enterprise reporting. Analysis of such matters as changing price levels and expansion of business units. (Not open to students who have completed Economics 706X.)

Prerequisite: admission to the accounting specialization or permission of the graduate deputy chairperson.

Accounting 707X Federal Taxation: Planning, Current Developments, and Advanced Problems

30 hours plus conference; 3 credits

Methodology used in tax research and planning. Ethical and policy considerations in tax planning and tax decisions.

Capital gains, reorganization, estate planning, exempt organizations, pensions, special purpose entities. (Not open to students who have completed Economics 707X.)

Prerequisite: admission to the accounting specialization or permission of the graduate deputy chairperson.

Accounting 708X Auditing Concepts, Standards, and Procedures

30 hours plus conference; 3 credits

Examination of theory and philosophy underlying verification of financial data. Changing standards and new levels of legal and moral responsibility. Role of control and supervisory agencies. Application of statistical methodology to the audit function. (Not open to students who have completed Economics 708X.)

Prerequisite: admission to the accounting specialization or permission of the graduate deputy chairperson.

Accounting 711X Accounting Requirements of the Securities and Exchange Commission and Other Regulatory Agencies

30 hours plus conference; 3 credits

Accounting principles and auditing requirements of the Securities and Exchange Commission and other selected government agencies. Applicable statutes, regulations, court decisions. (Not open to students who have completed Economics 703X.)

Prerequisite: admission to the accounting specialization or permission of the graduate deputy chairperson.

Accounting 712X Comptrollership and Managerial Accounting

30 hours plus conference; 3 credits

Role, functions, and responsibilities of the corporate comptroller and treasurer. Relevant modern planning and control techniques and their underlying conceptual philosophy. Design, installation, and implementation of management information systems for planning operations, reporting performance, and administering the firm. Decision-making models, profit planning, and performance analysis. (Not open to students who have completed Economics 704X.)

Prerequisite: admission to the accounting specialization or permission of the graduate deputy chairperson.

Accounting 713X The Legal Environment of Business

30 hours plus conference; 3 credits

Survey of private substantive rights; government regulatory agencies as they relate to business activities; comprehensive examination of regulations concerned with the protection of consumers, investors, employees, and the preservation of the environment and competition. (Not open to students who have completed Economics 752X.)

Prerequisite: admission to the accounting specialization or permission of the graduate deputy chairperson.

Accounting 714X Contemporary Accounting Topics

30 hours plus conference; 3 credits

Current problems in financial and managerial accounting and the accounting profession. (Not open to students who have completed Economics 714X.)

Prerequisite: admission to the accounting specialization or permission of the graduate deputy chairperson.

Accounting 781X Special Topics

30 hours plus conference; 3 credits

Topics vary from term to term. Students may take this course two times, but may not repeat topics.

Prerequisite: permission of the chairperson or his designee.

Accounting 782G Independent Reading

Minimum of 135 hours of independent work and conference; 3 credits

Independent research for students concentrating in accounting. Supervised by a faculty member. This course may be used as a stage in the preparation of a master's thesis. One or more written reports and/or final examination. (Not open to students who have completed Economics 782G.)

Prerequisite: Accounting 706X, 707X, and 708X; and permission of the chairperson or the chairperson's designee.

Accounting 783G Thesis Research

Hours to be arranged; 3 credits

Thesis research for students concentrating in accounting. Supervised by a faculty member. Students register for this course only once. (Not open to students who have completed Economics 783G.)

Prerequisite: grades of B or better in all of the following: Accounting 706X, 707X, and 708X; and permission of the chairperson or the chairperson's designee.

Business, Management, and Finance

Business 608X Marketing Management

30 hours plus conference; 3 credits

A comprehensive course examining the fundamental concepts and principles involved in the marketing of goods, services, and ideas. Topics covered include: marketing for nonprofit organizations, environments of marketing, strategic planning, buyer behavior, marketing research, market segmentation, product planning and development, pricing, promotion, international marketing, and marketing ethics. (Not open to students who have completed Economics 608X or 709X.)

Business 609X Business Management of Sports

45 hours; 3 credits

Principles of management; accounting, budgeting, and control systems for sports organizations, athletic facilities and institutions; labor relations, payroll procedures and taxation; break-even analysis; case studies. (Not open to students who have completed Economics 609X.)

Prerequisite: Economics 701X or an equivalent college-level accounting course.

Business 700X Organization Behavior

30 hours plus conference; 3 credits

History of management thought; individual needs, values, motivation, career development, small groups, formal organization, management processes. (Not open to students who have completed Economics 705.2X.)

Business 702X Bargaining and Conflict Resolution

30 hours plus conference; 3 credits

The nature and dynamics of conflict and the methods to resolve conflict. Focus on mutual problem-solving approaches and mediation. New developments in the economic theories of bargaining, nature of conflict, power, conflict resolution, the nature of negotiation, finding negotiation leverage, principled negotiation, mediation and arbitration. Trends in the discipline of conflict resolution.

Business 703X Television and Radio Marketing and Promotion

45 hours; 3 credits

Principles of marketing and promotion. Developing marketing and promotion strategies. Implementing campaigns. Evaluating their effectiveness in attracting audiences and building audience share in increasingly competitive electronic mass communication industries. This course is the same as Television and Radio 727X.

Prerequisite: an undergraduate course in marketing or permission of the deputy chairperson.

The following course is inactive and will be offered only if there is sufficient demand:

600X Management of Technical Enterprise in Industry

Education

Graduate education office: 2105 James Hall
Telephone: 951-5447, 951-5820

Dean: Deborah A. Shanley
Assistant Deans: Kathleen A. McSorley, Peter M. Taubman
Deputy, Division of Graduate Studies: Marion Neville-Lynch
Professors: Brumberg, Fuys, Gluck, Kincheloe, Korn-Bursztyn, Martinez-Pons, Rose, Rubal-Lopez, Shanley, Welchman;
Associate Professors: Bloomfield, Bursztyn, DeBey, Duboys, Giles, Neville Lynch, McCabe, Steinberg, Taubman;
Assistant Professors: Bynoe, Dhingra, Elizalde-Utnick, Forbes, Hwu, Kharem, Lee, Louis, Mancuso, McDonald, McSorley, Miele, Novemsky, Parmar, Reed, Rosenfeld, Rubel, Rubinson, Shaw, Solis, Winslow, Zolkower.

The teacher education programs lead to initial and/or professional certification. (Former titles were provisional and/or permanent certification.) The program requirements are established by the New York State Board of Regents and the New York State Education Department and are subject to change. All students should consult with the School of Education for the current requirements.

The Early Childhood Center programs provide opportunities for teacher education candidates and other students to study children ranging in age from infancy through the childhood years. Supervised field experiences, observations, and conferences are available.

The School of Education offers the following degree and advanced certificate programs with concentrations or sequences as indicated:

**Early childhood education teacher (birth-grade 2):
M.S. in Ed.**

**Childhood education teacher (grades 1–6):
M.S. in Ed.**

- I. Liberal arts
- II. Bilingual education
- III. Science and environmental education
- IV. Mathematics

Middle childhood education teacher, mathematics specialist (grades 5–9): M.S. in Ed.

Middle childhood education teacher, general science (grades 5–9): M.A.

Teacher of students with speech and language disabilities: M.S. in Ed.

Literacy teacher: M.S. in Ed.

Teacher of students with disabilities in early childhood and childhood education: M.S. in Ed.

**Adolescence education and special subjects: M.A.;
M.S. in Ed.**

(See description below and in appropriate subject area department.)

School administration and supervision: advanced certificate.

Guidance and counseling: M.S. in Ed.; advanced certificate.

School psychologist: M.S. in Ed.; advanced certificate.

Note: As of the publication of this *Bulletin*, the following new degree program is pending approval: Teaching English to Speakers of Other Languages (TESOL): M.S. in Ed.

Transfer credits

Students who receive transfer credit must complete at Brooklyn College at least one-half of the credits required in the area of specialization, other than education, and at least one-half of the credits required in education for a master's degree or advanced certificate.

Students should note further requirements found in the section "Academic Regulations and Procedures."

M.S. in Ed.: Early childhood education teacher (birth through grade 2) HEGIS code 0802

Program Head: Mary DeBey
Program office: 1604 James Hall
Telephone: 951-5431

Students will enroll in the appropriate course of studies listed below (Option A or B or C) based upon teaching experience, previous course work, and the teaching certificates they hold.

Option (A): 30 credits

The following program applies to students who hold a New York State Initial Certificate in Early Childhood Education (birth through grade 2) or its equivalent. This program leads to a New York State Professional Certificate in Early Childhood Education (birth through grade 2).

Matriculation requirements

Applicants must hold a New York State Initial Certificate in Early Childhood Education (birth through grade 2) or its equivalent.

Applicants must submit scores on the L.A.S.T.

Applicants must have a minimum undergraduate grade point average of 3.00. A minimum scholastic index of 3.00 in graduate education courses is required to maintain matriculation.

International applicants for whom English is a second language are required to pass the Test of English as a Foreign Language (TOEFL) with a minimum score of 550 to be considered for admission.

Applicants must obtain and file an application form in the program office in addition to the regular college admission form. Interviews may be required.

Students should note additional requirements found at the beginning of this section as well as in the sections "Admission" and "Academic Regulations and Procedures."

Degree requirements

Students must complete 30 credits in the following courses. Education 705.I3T or 706.I1T; 705.I1T or 708.I1T or 725.I1T or 751.I1T; 720.I1T or 727.I1T; 728.I1T; 710.I1T; 709.I1T or 709.I3T; 709.I5T or 726.I1T or 744T or 742.IX; 710.I3T; 707.I1T; 719.I1T.

During the first semester, students must file a program of study approved by the program adviser. All courses in the early childhood degree sequence require departmental permission for registration.

Option (B): 30 credits

The following program applies to students who hold a New York State Initial Certificate in Childhood Education (grades 1–6) or its equivalent or a New York State Initial Certificate in Special Subjects (all grades) or its equivalent. This program leads to a New York State Professional Certificate in Early Childhood Education (birth through grade 2).

Matriculation requirements

Applicants must hold a New York State Initial Certificate in Childhood Education (grades 1–6) or its equivalent or a New York State Initial Certificate in Special Subjects (all grades) or its equivalent.

Applicants must submit scores on the L.A.S.T.

Applicants must have a minimum undergraduate grade point average of 3.00. A minimum grade point average of 3.00 in graduate education courses is required to maintain matriculation.

International applicants for whom English is a second language are required to pass the Test of English as a Foreign Language (TOEFL) with a score of 550 before being considered for admission.

Applicants must obtain and file an application form in the program office in addition to the regular college admission form. Interviews may be required.

Students should note additional requirements found at the beginning of this section as well as in the sections "Admission" and "Academic Regulations and Procedures."

Degree requirements

Students must complete 30 credits in the following courses.

Education 705.I3T or 706.I1T; 705.I1T or 708.I1T or 725.I1T or 751.I1T; 720.I1T or 727.I1T; 728.I1T; 710.I1T; 709.I1T or 709.I3T or 709.I5T; 710.I3T; 764.I1T; 707.I1T; 719.I1T.

During the first semester, students must file a program of study approved by the program adviser. All courses in the early childhood degree sequence require departmental permission for registration.

Option C: 45 credits

The following program applies to students who do not hold a New York State Initial Certificate in Early Childhood Education or Childhood Education or Special Subjects or equivalent

course work and teaching experience, or who are teaching but do not hold initial certification. This program leads to both New York State Initial and Professional Certificates in Early Childhood Education.

Matriculation requirements

Applicants must submit scores on the L.A.S.T.

Applicants must have a minimum undergraduate grade point average of 3.00. A minimum grade point average of 3.00 in graduate education courses is required to maintain matriculation.

International applicants for whom English is a second language are required to pass the Test of English as a Foreign Language (TOEFL) with a minimum score of 550 before being considered for admission.

Applicants must obtain and file an application form in the program office in addition to the regular college admission form. Interviews may be required.

Students should note additional requirements found at the beginning of this section as well as in the sections "Admission" and "Academic Regulations and Procedures."

Degree requirements

Students must complete 45 credits in the following courses.

Education 705.I3T; 705.I1T; 706.I1T; 708.I1T or 725.I1T or 751.I1T; 720.I1T; 709.I1T or 709.I3T; 728.I1T; 727.I1T; 710.I3T; 710.I1T; 709.I5T; 764.I1T; 764.I1T; 707.I1T; 719.I1T.

During the first semester, students must file a program of study approved by the program adviser. All courses in the early childhood degree sequence require departmental permission for registration.

M.S. in Ed.: Childhood education teacher (grades 1–6) HEGIS code 0802

I. Childhood education teacher: liberal arts

Program head: Wen-Song Hwu

Program office: 2309 James Hall

Telephone: 951-3187

Students will enroll in the appropriate course of studies listed below (Option A or B or C) based upon teaching experience, previous course work, and the teaching certificates they hold.

Option (A): 30 credits

The following program applies to students who hold a New York State Initial Certificate in Childhood Education (grades 1–6) or its equivalent. This program leads to a New York State Professional Certificate in Childhood Education (grades 1–6).

Matriculation requirements

Applicants must hold a New York State Initial Certificate in Childhood Education (grades 1–6) or its equivalent.

Applicants must submit scores on the Liberal Arts and Science Test (L.A.S.T.).

Applicants must have a minimum undergraduate grade point average of 3.00. A minimum grade point average of 3.00 in graduate courses is required to maintain matriculation.

International applicants for whom English is a second language are required to pass the Test of English as a Foreign Language (TOEFL) with a minimum score of 550 to be considered for admission.

Students should note additional requirements found at the beginning of this section as well as in the sections "Admission" and "Academic Regulations and Procedures."

Degree requirements

Thirty credits are required for the degree.

Education 700.22T and English 702X or 706.IX or 775.IX or 775.2X.

Education 712.22T and History 720.3X or 741.8 or Political Science 703X or 761X or Puerto Rican and Latino Studies 614X or 770X or Africana Studies 715X or 730X.

Education 713.22T and Mathematics 604.1T or 604.2T or 604.3T or 604.5T or Education 789.10T.

Education 702.22T and one of the following: General Science 603T or 604.1T or 604.3T or 604.4T or 604.5T or Geology 606T or 666T.

Education 703.22T and an elective in education: Education 742.1X or 744T or 798X or 726.1X or a course in teaching students with disabilities with permission of the head of the Program in Teaching Students with Disabilities and the head of the Program in Childhood Education: Liberal Arts.

The following courses are required and it is recommended that they be taken in the following order (see the list above): Education 700.22T and a course in English; Education 712.22T and a course in history or political science or Puerto Rican and Latino studies or Africana studies; Education 713.22T and a course in mathematics or Education 789.10T; Education 702.22T and a course in general science; Education 703.22T and an approved education elective.

During the first semester, students must file a program of study approved by the program adviser. All courses in the childhood education degree sequence require departmental permission for registration.

Option (B): 33 credits

The following program applies to students who hold a New York State Initial Certificate in Early Childhood Education (birth through grade 2) or its equivalent or a New York State Initial Certificate in Special Subjects (all grades) or its equivalent. This program leads to a New York State Professional Certificate in Childhood Education (grades 1–6).

Matriculation requirements

Applicants must hold a New York State Initial Certificate in Early Childhood Education (birth through grade 2) or its equivalent or a New York State Initial Certificate in Special Subjects (all grades) or its equivalent.

Applicants must submit scores on the Liberal Arts and Science Test (L.A.S.T.).

Applicants must have a minimum undergraduate grade point average of 3.00. A minimum grade point average of 3.00 in graduate courses is required to maintain matriculation.

International applicants for whom English is a second language are required to pass the Test of English as a Foreign Language (TOEFL) with a score of 550 before being considered for admission.

Students should note additional requirements found at the beginning of this section as well as in the sections "Admission" and "Academic Regulations and Procedures."

Degree requirements

Thirty-three credits are required for the degree.

Education 700.22T and English 702X or 706.IX or 775.IX or 775.2X.

Education 712.22T and History 720.3X or 741.8 or Political Science 703X or 761X or Puerto Rican and Latino Studies 614X or 770X or Africana Studies 715X or 730X.

Education 713.22T and Mathematics 604.1T or 604.2T or 604.3T or 604.5T or Education 789.10T.

Education 702.22T and one of the following: General Science 603T or 604.1T or 604.3T or 604.4T or 604.5T or Geology 606T or 666T.

Education 703.22T and an elective in education: Education 742.1 or 798X or 726.1 or a course in teaching students with disabilities with permission of the head of the Program in Teaching Students with Disabilities and the head of the Program in Childhood Education: Liberal Arts.

Education 764.2T.

During the first semester, students must file a program of study approved by the program adviser. All courses in the childhood education degree sequence require departmental permission for registration.

Option (C): 45 credits

The following program applies to students who do not hold a New York State Initial Certificate in Early Childhood Education or Childhood Education or Special Subjects or equivalent course work and teaching experience, or who are teaching but do not hold initial certification. This program leads to both New York State Initial and Professional Certificates in Childhood Education (grades 1–6).

Matriculation requirements

Applicants must submit scores on the Liberal Arts and Science Test (L.A.S.T.).

Applicants must have a minimum undergraduate grade point average of 3.00. A minimum grade point average of 3.00 in graduate courses is required to maintain matriculation.

International applicants for whom English is a second language are required to pass the Test of English as a Foreign Language

(TOEFL) with a score of 550 before being considered for admission.

Students should note additional requirements found at the beginning of this section as well as in the sections "Admission" and "Academic Regulations and Procedures."

Degree requirements

Forty-five credits are required for the degree.

Education 718.22T, 794X, 763.25T, 763.26T, 792.2X, and 763.23T.

Education 700.22T and English 702X or 706.1X or 775.1X or 775.2X.

Education 712.22T and History 720.3X or 741.8 or Political Science 703X or 761X or Puerto Rican and Latino Studies 614X or 770X or Africana Studies 715X or 730X.

Education 713.22T and Mathematics 604.1T or 604.2T or 604.3T or 604.5T or Education 789.10T.

Education 702.22T and one of the following: General Science 603T or 604.1T or 604.3T or 604.4T or 604.5T or Geology 606T.

Education 703.22T.

During the first semester, students must file a program of study approved by the program adviser. All courses in the childhood education degree sequence require departmental permission for registration.

II. Childhood education teacher: bilingual education

Program head: Alma Rubal-Lopez

Program office: 2105 James Hall

Telephone: 951-5447

The Extension in Bilingual (Spanish/English) Education is offered as part of a degree program or as a 15-credit program for nonmatriculated students.

Matriculation requirements

This program applies to students who hold a New York State Initial Certificate in Childhood Education and wish to attain a Professional Certificate in Childhood Education with an Extension in Bilingual (Spanish/English) Education. This program also applies to students who have a Professional Certificate in Childhood Education and wish to pursue an Extension in Bilingual (Spanish/English) Education. All students who wish to enroll should speak to the Bilingual Program Adviser.

Applicants must submit scores on the Liberal Arts and Science Test (L.A.S.T.).

Applicants must have a minimum undergraduate grade point average of 3.00. A minimum grade point average of 3.00 in graduate courses is required to maintain matriculation.

Applicants must submit scores on the New York State Spanish Language Target Test and must submit a written sample in Spanish.

International applicants for whom English is a second language are required to pass the Test of English as a Foreign Language (TOEFL) with a score of 550 before being considered for admission.

Students should note additional requirements found at the beginning of this section as well as in the sections "Admission" and "Academic Regulations and Procedures."

Degree requirements

Thirty-six credits are required for the degree.

Required courses are listed below; courses marked with an asterisk (*) are bilingual extension courses.

Education 700.22T paired with Education 758.48T*.

Education 712.22T paired with Puerto Rican and Latino Studies 741X*.

Education 713.22T paired with Mathematics 604.1T or 604.2T or 604.3T or 604.5T or Education 789.10T.

Education 702.22T paired with General Science 603T or 604.1T.

Education 703.22T paired with Education 757.48T*.

Education 760.47T* paired with Education 761.47T*.

During the first semester, students must file a program of study approved by the program adviser. All courses in the childhood education degree sequence and in childhood bilingual extension programs require departmental permission for registration.

Nonmatriculated students

Students with a New York State Initial Certificate in Childhood Education and/or a New York State Professional Certificate in Childhood Education or their equivalents who wish to complete an Extension in Bilingual (Spanish/English) Education without completing a master's degree in Childhood Education, may do so as a nonmatriculated student. A passing score on the New York State Target Language Test and a written sample in Spanish must first be submitted. Permission from the head of the Program in Bilingual Education is required.

The Bilingual Extension in Childhood Education consists of 15 credits. Required courses, which may be taken in any order, are listed below.

Education 757.48T, 758.48T, 760.47T, and 761.47T; and Puerto Rican and Latino Studies 741X.

All courses in childhood education and in childhood bilingual extension programs require departmental permission for registration.

III. Childhood education teacher: science and environmental education

Program head: Eleanor Miele

Program office: 2606 James Hall

Telephone: 951-5061

Students will enroll in the appropriate course of studies listed

below (Option A or B or C) based upon teaching experience, previous course work, and the teaching certificates they hold.

Option (A): 30 credits

The following program applies to students who hold a New York State Initial Certificate in Childhood Education (grades 1–6) or its equivalent. This program leads to a New York State Professional Certificate in Childhood Education (grades 1–6).

Matriculation requirements

Applicants must hold a New York State Initial Certificate in Childhood Education (grades 1–6) or its equivalent.

Applicants must submit scores on the Liberal Arts and Science Test (L.A.S.T.).

Applicants must have a minimum undergraduate grade point average of 3.00 and a minimum grade point average of 3.00 in courses required for matriculation.

International applicants for whom English is a second language are required to pass the Test of English as a Foreign Language (TOEFL) with a score of 550 before being considered for admission.

Applicants who have not completed all the specific course requirements are given individual consideration and may be admitted with conditions, with the approval of the program head.

A minimum grade point average of 3.00 in graduate courses is required to maintain matriculation.

Students should note additional requirements found at the beginning of this section as well as in the sections "Admission" and "Academic Regulations and Procedures."

Degree requirements

Thirty credits are required for the degree.

Students must complete the following five courses in the stated sequence: Education 712.25T and General Science 604.3T; Education 713.25T; Education 701.25T; Education 702.25T.

The following courses are also required: Two of the following: General Science 604.1T, 604.4T, 604.5T; Education 784.1X; a course in teaching students with disabilities approved by the head of the Program in Teaching Students with Disabilities; an education or science elective approved by the head of the Program in Childhood Education: Science and Environmental Education.

During the first semester, students must file a program of study approved by the program adviser. All courses in the childhood education degree sequence require departmental approval for registration.

Option (B): 33 credits

The following program applies to students who hold a New York State Initial Certificate in Early Childhood Education (birth through grade 2) or its equivalent, a New York State Initial Certificate in Middle Childhood Education (grades 5–9) or its equivalent, or a New York State Initial Certificate in

Special Subjects (all grades) or its equivalent. This program leads to a New York State Professional Certificate in Childhood Education (grades 1–6).

Matriculation requirements

Students must hold a New York State Initial Certificate in Early Childhood Education (birth through grade 2) or its equivalent, a New York State Initial Certificate in Middle Childhood Education (grades 5–9) or its equivalent, or a New York State Initial Certificate in Special Subjects (all grades) or its equivalent.

Applicants must submit scores on the Liberal Arts and Science Test (L.A.S.T.).

Applicants must have a minimum undergraduate grade point average of 3.00.

International applicants for whom English is a second language are required to pass the Test of English as a Foreign Language (TOEFL) with a score of 550 before being considered for admission.

A minimum grade point average of 3.00 in graduate courses is required to maintain matriculation.

Students should note additional requirements found at the beginning of this section as well as in the sections "Admission" and "Academic Regulations and Procedures."

Degree requirements

Thirty-three credits are required for the degree.

Students must complete the following five courses in the stated sequence: Education 712.25T and General Science 604.3T; Education 713.25T; Education 701.25T; Education 702.25T.

The following courses are also required: Two of the following: General Science 604.1T, 604.4T, 604.5T; Education 764.2X; Education 784.1X; a course in teaching students with disabilities approved by the head of the Program in Teaching Students with Disabilities; an education or science elective approved by the head of the Program in Childhood Education: Science and Environmental Education.

During the first semester, students must file a program of study approved by the program adviser. All courses in the childhood education degree sequence require departmental permission for registration.

Option (C): 45 credits

The following program applies to students who do not hold a New York State Initial Certificate in Early Childhood Education, Childhood Education, Middle Childhood Education, or Special Subjects or equivalent course work and teaching experience, or who are teaching but do not hold initial certification. This program leads to both New York State Initial and Professional Certificates in Childhood Education (grades 1–6).

Matriculation requirements

Applicants must submit scores on the Liberal Arts and Science Test (L.A.S.T.).

Applicants must have a minimum undergraduate grade point average of 3.00.

International applicants for whom English is a second language are required to pass the Test of English as a Foreign Language (TOEFL) with a score of 550 before being considered for admission.

A minimum grade point average of 3.00 in graduate courses is required to maintain matriculation.

Students should note additional requirements found at the beginning of this section as well as in the sections "Admission" and "Academic Regulations and Procedures."

Degree requirements

Forty-five credits are required for the degree.

Students must complete the following five courses prior to taking other required courses: Education 718.22T; Education 794X; Education 763.25T; Education 763.26T; Education 763.23T.

Students must complete the following five courses in the stated sequence: Education 712.25T and General Science 604.3T; Education 713.25T; Education 701.25T; Education 702.25T.

Two of the following: General Science 604.1T, 604.4T, 604.5T.

Education 792.2X and Education 784.1X; a course in teaching students with disabilities approved by the head of the Program in Teaching Students with Disabilities; an education or science elective approved by the head of the Program in Childhood Education: Science and Environmental Education.

During the first semester, students must file a program of study approved by the program adviser. All courses in the childhood education degree sequence require departmental permission for registration.

IV. Childhood education teacher: mathematics

Program head: David J. Fuyts

Program office: 2617 James Hall

Telephone: 951-5937

This program leads to the M.S. in Education and a New York State Professional Certificate in Childhood Education (grades 1–6) with a specialization in mathematics education.

General matriculation requirements

Applicants must submit scores on the Liberal Arts and Science Test (L.A.S.T.).

Applicants must have a minimum undergraduate grade point average of 3.00. A minimum grade point average of 3.00 in graduate courses is required to maintain matriculation.

International applicants for whom English is a second language are required to pass the Test of English as a Foreign Language (TOEFL) with a minimum score of 550.

Students should note additional requirements found at the beginning of this section as well as in the sections "Admission" and "Academic Regulations and Procedures."

General degree requirements

Thirty to 45 credits are required for the degree depending on applicants' qualifications.

Students will enroll in the appropriate course of studies listed below (Option A or B or C) based upon teaching experience, previous course work, and the teaching certificates they hold.

Students must complete the following education courses in the stated sequence: Education 712.23T, 713.23T, 701.23T, 702.23T. All required education courses and some education electives require permission for registration as indicated in the Schedule of Classes.

Option (A): 30 credits

Matriculation requirements

Applicants must hold a New York State Initial Certificate in Childhood Education (grades 1–6) or its equivalent.

Degree requirements

Thirty credits are required for the degree.

In addition to Education 712.23T, 713.23T, 701.23T, and 702.23T, the following courses are required:

(a) four of the following mathematics courses, or mathematics courses approved by the program adviser: Mathematics 604.1T, 604.2T, 604.3T, 604.4T, 604.5T, 604.6T;

(b) Education 784.1X;

(c) one of the following elective education courses, or an education course approved by the program adviser: Education 725.03T, 726.1X, 726.2T, 742.1X, 744T, 751.2T, 765.1X, 784.1X, 784.2X, 792.X.

Option (B): 33 credits

Matriculation requirements

Applicants must hold a New York State Initial Certificate in Early Childhood Education (birth through grade 2) or its equivalent or a New York State Initial Certificate in Middle Childhood Education (generalist, grades 5–9) or its equivalent.

Degree requirements

Thirty-three credits are required for the degree.

In addition to Education 712.23T, 713.23T, 701.23T, and 702.23T, the following courses are required:

(a) four of the following mathematics courses, or mathematics courses approved by the program adviser: Mathematics 604.1T, 604.2T, 604.3T, 604.4T, 604.5T, 604.6T;

(b) Education 784.1X;

(c) one of the following elective education courses, or an education course approved by the program adviser: Education 725.03T, 726.1X, 726.2T, 742.1X, 744T, 751.2T, 765.1X, 784.2X, 792.X;

(d) Education 764.2T.

Option (C): 45 credits

This option leads to both New York State Initial and Professional Certificates in Childhood Education (grades 1–6) with a specialization in mathematics education.

Matriculation requirements

See "General matriculation requirements" for Childhood Education: Mathematics, above.

Degree requirements

Forty-five credits are required for the degree.

Students must complete Education 718.22T, 794X, 763.25T, 763.26T, and 763.23T prior to taking other education courses required for the degree. Students must obtain departmental permission to register for these courses.

In addition to Education 712.23T, 713.23T, 701.23T, and 702.23T, the following courses are required:

- (a) four of the following mathematics courses, or mathematics courses approved by the program adviser: Mathematics 604.1T, 604.2T, 604.3T, 604.4T, 604.5T, 604.6T;
- (b) Education 784.1X;
- (c) one of the following elective education courses, or an education course approved by the program adviser: Education 725.03X, 726.1X, 726.2T, 742.1X, 744T, 751.2T, 784.1X, 784.2X, 792.2X.

M.S. in Ed.: Middle childhood education teacher, mathematics specialist (grades 5–9)**HEGIS code 0802**

Program head: Mary Chiusano

Program office: 2416 James Hall

Telephone: 951-5517

This program leads to the M.S. in Education and both New York State Initial and Professional Certificates in Middle Childhood Education with a specialization in mathematics (grades 5–9).

Matriculation requirements

Applicants must submit scores on the Liberal Arts and Science Test (L.A.S.T.).

Applicants must have a minimum undergraduate grade point average of 3.00. A minimum grade point average of 3.00 in graduate courses is required to maintain matriculation.

International applicants for whom English is a second language are required to pass the Test of English as a Foreign Language (TOEFL) with a minimum score of 550.

Students should note additional requirements found at the beginning of this section as well as in the sections "Admission" and "Academic Regulations and Procedures."

Degree requirements

Thirty to 47 credits are required for the degree depending on applicants' qualifications.

Students will enroll in the appropriate course of studies listed below (Option A or B or C) based upon teaching experience,

previous course work, and the teaching certificates they hold.

Students must complete the following education courses in the stated sequence: Education 712.23T, 713.23T, 701.23T, 702.23T. All required education courses and some education electives require permission for registration as indicated in the *Schedule of Classes*.

Option (A): 30 credits**Matriculation requirements**

Applicants must hold a New York State Initial Certificate in Middle Childhood Education (grades 5–9) or its equivalent. Applicants must present 18 credits of mathematics, including two semesters of calculus.

Degree requirements

Thirty credits are required for the degree.

In addition to Education 712.23T, 713.23T, 701.23T, and 702.23T, the following courses are also required:

- (a) four of the following mathematics courses, or mathematics courses approved by the program adviser: Mathematics 604.4T, 604.6T, 606, 606.01, 606.1, 606.2, 606.3, 652;
- (b) Education 784.2X;
- (c) one of the following elective education courses, or an education course approved by the program adviser: Education 726.1X, 726.2T, 742.1X, 744T, 751.2, 765.1, 792.2.

Option (B): 33 credits**Matriculation requirements**

Applicants must hold a New York State Initial Certificate in Childhood Education (grades 1–6) or its equivalent or a New York State Initial Certificate in Adolescence Education (grades 7–12) or its equivalent. Applicants must present 18 credits of mathematics, including two semesters of calculus.

Degree requirements

Thirty-three credits are required for the degree.

In addition to Education 712.23T, 713.23T, 701.23T, and 702.23T, the following courses are required:

- (a) four of the following mathematics courses, or mathematics courses approved by the program adviser: Mathematics 604.4T, 604.6T, 606, 606.01, 606.1, 606.2, 606.3, 652;
- (b) Education 784.2X and 765.1;
- (c) Student teaching in grades 7–8 for those with Initial Certification in Childhood Education (Education 763.03T and 764.5X), or grades 5–6 for those with Initial Certification in Adolescence Education (Education 764.2T).

Option (C): 47 credits

This program leads to both New York State Initial and Professional Certificates in Middle Childhood Education with a specialization in mathematics (grades 5–9).

Matriculation requirements

Applicants must present 18 credits of mathematics, including two semesters of calculus.

Degree requirements

Forty-seven credits are required for the degree.

Students must complete Education 742T, 792.IX, 763.03T, 764.5X, 725.03X, and 763.23T prior to taking other education courses required for the degree. Students must obtain departmental permission to register for these courses.

In addition to Education 712.23T, 713.23T, 701.23T and 702.23T, the following courses are required:

- (a) four of the following mathematics courses, or mathematics courses approved by the program adviser: Mathematics 604.4T, 604.6T, 606T, 606.01T, 606.1T, 606.2T, 606.3T, 652X;
- (b) Education 765.IX, 792.2X.

M.A.: General science teacher (grades 5–9)

HEGIS code 4902

Interdepartmental coordinator: Eleanor Miele

Program office: 2416 James Hall

Telephone: 951-5061

Matriculation and degree requirements for this program are listed in the "General Science" section in the *Bulletin*.

M.S. in Ed.: Teacher of students with speech and language disabilities HEGIS code 0815

Adviser: Gail B. Gurland

Program office: 4400 Boylan Hall

Telephone: 951-5186

Matriculation and degree requirements for this program are listed in the section for the Department of Speech Communication Arts and Sciences.

M.S. in Ed.: Literacy teacher HEGIS code 0830

Program head: Shirley Steinberg

Program office: 2105 James Hall

Telephone: 951-5447

I. Literacy certificate (birth-grade 6)

Matriculation requirements

Applicants must present a minimum undergraduate grade point average of 3.00 or a Graduate Record Examination combined score of 1500 in the verbal, analytical, and quantitative sections with a minimum score of 400 in each of these sections.

International applicants for whom English is a second language are required to pass the Test of English as a Foreign Language (TOEFL) with a minimum score of 550.

To determine their suitability for the program, applicants are carefully screened and interviewed by a faculty member in the literacy program.

Applicants must offer either one of the following New York State Initial Certificates:

- a) Initial Certificate valid for teaching early childhood education (birth through grade 2) or

- b) Initial Certificate valid for teaching childhood education (grades 1 through 6).

Students should note additional requirements found at the beginning of this section as well as in the sections "Admission" and "Academic Regulations and Procedures."

Degree requirements

Thirty credits are required for the degree.

Students must complete the 30 credits in the following courses. Courses should be taken in this order: Education 700.12T and 701.12T; 717.12T and 716.12T; 712.12T and 719.12T; 713.12T and 720.12T; and 702.12T and 703.12T.

II. Literacy certificate (grades 5–12)

Matriculation requirements

Applicants must present a minimum undergraduate grade point average of 3.00 or a Graduate Record Examination combined score of 1,500 in the verbal, analytical, and quantitative sections with a minimum score of 400 in each of these sections.

International applicants for whom English is a second language are required to pass the Test of English as a Foreign Language (TOEFL) with a minimum score of 550.

To determine their suitability for the program, applicants are carefully screened and interviewed by a faculty member in the literacy program.

Applicants must offer either one of the following New York State Initial Certificates:

- a) Initial Certificate valid for teaching middle childhood education (grades 5 through 9) or
- b) Initial Certificate valid for teaching adolescence education (grades 7 through 12).

Students should note additional requirements found at the beginning of this section as well as in the sections "Admission" and "Academic Regulations and Procedures."

Degree requirements

Thirty credits are required for the degree.

Students must complete the 30 credits in the following courses. Courses should be taken in this order: Education 700.12T and 701.12T; 727.12T and 726.12T; 732.12T and 719.12T; 733.12T and 720.12T; and 702.12T and 703.12T.

M.S. in Ed.: Teacher of students with disabilities in early childhood and childhood education HEGIS code 0808

Program office: 1107 James Hall

Telephone: 951-5995

Applicants are admitted to this program in the spring and fall semesters. Applications for the spring semester must be received by November 1 and applications for the fall semester must be received by March 1.

I. Teacher of students with disabilities in early childhood education (birth–grade 2)

Matriculation requirements

Applicants must obtain and file an application form in the program office in addition to the regular college admissions form. Applicants are interviewed and must submit three appropriate letters of recommendation.

Applicants must present a minimum undergraduate grade point average of 3.00. A minimum grade point average of 3.00 in graduate education courses is required to maintain matriculation. International applicants for whom English is a second language are required to pass the Test of English as a Foreign Language (TOEFL) with a minimum score of 550 before being considered for admission.

Applicants who do not meet these standards may be considered for admission based on other evidence of high capacity for graduate studies.

Applicants must have successfully completed a New York State Initial Certificate in one of the following New York State approved teacher certification areas: a) early childhood education, b) childhood education, c) middle childhood education, d) adolescence education, e) special subjects, or f) teacher of students with speech and language disabilities, or the equivalent preparation and/or certification.

Applicants must submit scores on the Liberal Arts and Science Test (L.A.S.T.).

Applicants are interviewed and required to demonstrate written proficiency in English.

Students should note additional requirements found at the beginning of this section as well as in the sections "Admission" and "Academic Regulations and Procedures."

Degree requirements

Thirty or 33 credits are required for the degree. Students take different education courses and credit options depending on their previous course work, teaching experience, and the certificates they hold.

During the first term students in either option (30 or 33 credits) must file a program of study approved by the head of the Program in Teaching Students with Disabilities in Early Childhood and Childhood Education.

Thirty credit option:

This option is for students holding an Initial Certificate in one of the New York State approved teacher certification areas and an Initial Certificate in Teaching Students with Disabilities.

Students complete 15 credits in the following courses: Education 708.I IT, 725.I IT, 727.I IT, 750.7T, and 703.32T; and 6 credits in elective courses in teaching students with disabilities. The remaining 9 credits consist of Education 728.I IT, 710.I IT, and 710.I3T with permission from the head of the Early Childhood Education Program.

Students are required to complete an independent research project under advisement of a faculty member in Education 703.32T.

Thirty-three credit option:

This option is for students holding an Initial Certificate in one of the New York State approved teacher certification areas, and having had no course work in teaching students with disabilities and no student teaching experience with students with disabilities.

Students must complete 33 credits in the following courses, which should be taken in this order: Education 750.I T and 726.2T; 708.I IT and 750.2T; 727.I IT and 725.I IT; 750.5T and 750.7T; 717.32T and 703.32T; and Education 750.8T, Seminar and Student Teaching: Students with Special Needs.

Students must complete at least 50 hours of supervised field experience and at least 20 days of student teaching (teaching students with disabilities in early childhood). In addition, students must complete a research project under advisement of a faculty member in Education 703.32T.

II. Teacher of students with disabilities in childhood education (grades 1–6)

Matriculation requirements

Applicants must obtain and file an application form in the program office in addition to the regular college admissions form. Applicants are interviewed and must submit three appropriate letters of recommendation.

Applicants must present a minimum undergraduate grade point average of 3.00. A minimum grade point average of 3.00 in graduate education courses is required to maintain matriculation. International applicants for whom English is a second language are required to pass the Test of English as a Foreign Language (TOEFL) with a minimum score of 550 before being considered for admission.

Applicants who do not meet these standards may be considered for admission based on other evidence of high capacity for graduate studies.

Applicants must have successfully completed a New York State Initial Certificate in one of the following New York State approved teacher certification areas: a) early childhood education, b) childhood education, c) middle childhood education, d) adolescence education, e) special subjects, or f) teacher of students with speech and language disabilities, or the equivalent preparation and/or certification.

Applicants must submit scores on the Liberal Arts and Science Test (L.A.S.T.).

Applicants are interviewed and required to demonstrate written proficiency in English.

Students should note additional requirements found at the beginning of this section as well as in the sections "Admission" and "Academic Regulations and Procedures."

Degree requirements

Thirty or 33 credits are required for the degree. Students take different education courses and credit options depending on their previous course work, teaching experience, and the certificates they hold.

During the first term students in either option (30 or 33 credits) must file a program of study approved by the head of the Program in Teaching Students with Disabilities in Early Childhood and Childhood Education.

Thirty credit option:

This option is for students holding an Initial Certificate in one of the New York State approved teacher certification areas and an Initial Certificate in Teaching Students with Disabilities.

Students complete 15 credits in the following courses: Education 750.3T, 750.4T, 750.6T, 750.7T, and 703.33T; and 6 credits in elective courses in teaching students with disabilities. The remaining 9 credits consist of Education 789.10T, 712.22T, and 712.25T or 716.25T with approval from program heads of the Programs in Childhood Education: Liberal Arts, Childhood Education: Science and Environmental Education, and Childhood Education: Mathematics.

Students are required to complete an independent research project under advisement of a faculty member in Education 703.33T.

Thirty-three credit option:

This option is for students holding an Initial Certificate in one of the New York State approved teacher certification areas, and having had no course work in teaching students with disabilities and no student teaching experience with students with disabilities in grades 1–6.

Students must complete 33 credits in the following courses, which should be taken in this order: Education 750.1T and 726.2T; 750.3T and 750.2T; 750.6T and 750.4T; 750.5T and 750.7T; 717.33T and 703.33T; and Education 750.8T, Seminar and Student Teaching: Students with Special Needs.

Students must complete at least 50 hours of supervised field experience and at least 20 days of student teaching (teaching students with disabilities in childhood). In addition, students must complete a research project under advisement of a faculty member in Education 703.33T.

M.A., M.S. in Ed.: Adolescence education and special subjects (See appropriate department or below for HEGIS code)

Program Coordinator: Fred Stopsky (see appropriate department for subject area adviser)

Program office: 2309 James Hall
Telephone: 951-5205, 951-5206

Master's degrees are offered in the following subject areas:

Adolescence Education (grades 7–12)

M.A., biology teacher HEGIS code 0401-01

M.A., chemistry teacher HEGIS code 1905-01

M.A., english teacher HEGIS code 1501-01

M.A., french teacher HEGIS code 1102-01
M.A., mathematics teacher HEGIS code 1701-01
M.A., physics teacher HEGIS code 1902-01
M.A., social studies teacher HEGIS code 2201
M.A., spanish teacher HEGIS code 1105-01

Special Subjects (all grades)

M.A., art teacher HEGIS code 0831
M.S. in Ed., health and nutrition sciences: health teacher HEGIS code 0837

M.A., music teacher HEGIS code 0832
Advanced Certificate, music education HEGIS code 0832
M.S. in Ed., physical education teacher HEGIS code 0835
M.S. in Ed., teacher of students with speech and language disabilities HEGIS code 0815

See department listings for additional information about these programs.

Matriculation requirements

Applicants must offer (a) or (b) or (c):

(a) New York State Initial Certification in Adolescence Education for grades 7–12 in biology, chemistry, English, mathematics, physics, social studies, Spanish, or French or New York State Initial Certification in Special Subjects for all grades in art, health, music, physical education, or education of students with speech and language disabilities.

(b) courses in education that meet the New York State standards for the pedagogical core. These courses include study of the following: history of education and philosophy of education or principles of education or educational sociology; educational psychology or developmental psychology or psychology of adolescence or adolescent development; classroom management; teaching students with special needs and English language learners; 6 credits in literacy and language acquisition; curriculum development and methods of assessing student learning; uses of technology in the classroom; methods of teaching the appropriate subject area at appropriate grade levels; 100 hours of fieldwork; 40 days or 300 hours of student teaching at appropriate grade levels, or one year of full-time teaching in the appropriate subject area at appropriate grade levels, and a specified number of credits in the appropriate subject area (see requirements in the appropriate department listing); and submission of scores on the L.A.S.T.;

(c) an undergraduate degree with an appropriate major or appropriate course work in the appropriate subject area, and submission of scores on the Liberal Arts and Science test (L.A.S.T.).

Applicants must have a minimum undergraduate grade point average of 3.00. A minimum average of 3.00 in graduate courses is required to maintain matriculation.

International applicants for whom English is a second language are required to pass the Test of English as a Foreign Language (TOEFL) with a score of 550 before being considered for admission. For the M.A. in teaching English or social studies a passing score of 650 is required.

Applicants who have not completed all the specific course requirements are given individual consideration and may be admitted with conditions, with the approval of the head of adolescence education and special subjects in the School of Education and the chairperson of the department in the appropriate subject area.

Students should note additional requirements found in the sections "Admission" and "Academic Regulations and Procedures."

Degree requirements

Thirty to 50 credits are required for the degree.

Students must complete at least 18 credits in the subject area to satisfy degree requirements of the appropriate departments. See the appropriate department listing for these requirements.

Students take different education courses and sequences of courses depending on their previous course work, teaching experience, and the certificates they hold. Students who possess Initial Certification must complete 9 credits in Group II below, 3 credits in Group III, and at least 18 credits in their subject area of specialization. Students who do not possess Initial Certification or equivalent course work and teaching experience or who are teaching but do not possess Initial Certification must have the appropriate course work and credits in the subject area and must complete the appropriate courses in Group I before taking courses in Groups II and III. Students pursuing Initial Certification must take ED 792.2X, Teaching Writing Across the Curriculum, in Group III. Students who already have a master's degree but wish Initial Certification must take appropriate courses in Group I and Group III, as determined at the time of matriculation by the head of adolescence education and special subjects.

Group I

Education 742X, 792.1X, 763.01T-.17T, 764.5T, 723.01T-.17T, 764.51T.

Group II

Education 742.2T, 722.01T-.17T, 724.01T-.17T.

Group III

Education 716X, 721.01T-.17T, 726.1X, 731.3T, 751.2T, 751.1T (restricted to programs in special subjects), 784.2X, 792.2X, Education 792.4X/English 779X (cross-listed with the English Department), Education 796X/Theater 741 (cross-listed with the Theater Department), Education 799.5X.

Advanced certificate: Educational leadership HEGIS code 0828

Program Head: David Bloomfield
Program office: 2205 James Hall
Telephone: 951-5213, 951-5222

Matriculation requirements

Applicants must obtain and file a program application form in the Graduate Admissions Office in addition to the regular college admission form.

Selection of applicants is based on a faculty committee review of the following requirements: a master's degree from an accredited institution; a permanent or professional certificate in the classroom teaching service or pupil personnel service or demonstration of the potential for instructional leadership based on prior experiences; evidence of superior scholarship; evidence of a high level of professional vision and effectiveness; and outstanding promise of professional leadership possessing the nine essential characteristics of effective leaders as a result of their prior experiences as attested by records, written references from supervisors, interviews, essay, and/or other sources of evidence the faculty committee may request. As required by the Commissioner's Regulations, the nine characteristics of effective leaders are: 1) leaders know and understand what it means and what it takes to be a leader; 2) leaders have a vision for schools that they constantly share and promote; 3) leaders communicate clearly and effectively; 4) leaders collaborate and cooperate with others; 5) leaders persevere and take the long view; 6) leaders support and develop, and nurture staff; 7) leaders hold themselves and others responsible and accountable; 8) leaders never stop learning and honing their skills; and 9) leaders have the courage to take informed risks.

Students should note additional requirements found at the beginning of this section as well as in the sections "Admission" and "Academic Regulations and Procedures."

Advanced certificate requirements

A minimum of 30 credits beyond the master's degree is required for the advanced certificate. The credits must be completed within three years after admission to the program.

Students must complete 30 credits in the following courses: Education 770X, 771X, 772.3X, 775.3X, 775.4X, 777.1X, 775.01X, 775.02X, 775.03X, 775.04X, 775.05X, and 775.06X.

M.S. in Ed.: School counseling HEGIS code 0826-01

Program head: David J. Forbes
Program office: 2401 James Hall
Telephone: 951-5938, 951-5939

Matriculation requirements

Applicants must obtain and file the College admission form, including the supplemental School of Education admission form. Applicants must also submit letters of recommendation from individuals familiar with applicants' professional and academic experience. The program invites selected applicants to participate in a group interview and to complete an on-site writing sample.

In addition to the above requirements, applicants for the bilingual specialization in school counseling are interviewed in the language presented for competency.

Students should note additional requirements found at the beginning of this section as well as in the sections "Admission" and "Academic Regulations and Procedures."

Degree requirements

Forty-eight credits are required for the degree. Sixty credits are required for the degree with a specialization in bilingual school counseling.

Students must complete 48 credits in the following courses, which should be taken in this order: Education 735.3X, 724.10X, 724.09T, 724.09T, 701.01X, 724.06T, 729.11T, 724.07T, 701.02T, 734.1T, 715.1T, 701.03T, 736.1T, 756.11, 756.12T, 701.04T. Full-time students take four courses each semester; and part-time students take two courses each semester.

The bilingual specialization is a 15-credit sequence, consisting of the following courses: Education 715.1T, 757.48T, 757.49T, 791.11T and either 726.1X or 726.2T. The sequence of the courses will be determined in consultation with the coordinator of the specialization in bilingual school counseling.

Additional requirements for students in the bilingual specialization:

- a. all internships in the program must be done in a bilingual setting;
- b. passing scores on the English Language Proficiency Assessment for Non-Classroom Personnel-ELPA-N, and on the Target Language Proficiency Assessment-TLPA.

After a student completes approximately 12 credits, the faculty members review the student's progress and potential and recommend continuation or withdrawal. This evaluation is based on criteria described in the "Program Statement of Expectations" made available to students when they enter the program.

Students must pass a comprehensive examination. Information about requirements for the comprehensive examination is in the section "Academic Regulations and Procedures."

Advanced certificate: School counseling HEGIS code 0826-01

Program head: David J. Forbes

Program office: 2401 James Hall

Telephone: 951-5938, 951-5939

Matriculation requirements

Applicants must obtain and file the College admission form, including the supplemental School of Education admission form. Applicants must also submit letters of recommendation from individuals familiar with applicants' professional and academic experience. The program invites selected applicants to participate in a group interview and to complete an on-site writing sample.

Advanced certificate requirements

Twelve credits beyond the master's degree are required for the advanced certificate. The advanced certificate offers a concentration in community counseling.

Students must complete the following courses, which should be taken in this order: Education 791.10T, 791.11T, 791.12T, and 791.13T.

A student whose master's degree represents fewer than 48 credits or whose master's degree lacks adequate internship or fieldwork preparation may be required to take Education 724.07T and 701.03T in order to be matriculated into the advanced certificate program.

M.S. in Ed.: School psychologist HEGIS code 0826-02

Program head: Florence Robinson

Program office: 1105 James Hall

Telephone: 951-5876, 951-5877

Applicants are admitted to this program only in the fall; applications must be filed by March 1.

Matriculation requirements

Applicants must obtain and file an application form in the program office in addition to the regular college application.

Applicants must offer at least 15 credits in experimental psychology, statistics in psychology, tests and measurements, psychology of personality, and physiological psychology.

Applicants must present 6 credits in educational psychology and developmental psychology and 3 credits in educational philosophy or educational sociology. An applicant who has completed a teacher-training program or who has a permanent certificate, or the equivalent, as a teacher in New York State may offer one or the other in lieu of these 9 credits.

Applicants must have a minimum undergraduate grade point average of 3.00 (B) and a minimum average of 3.00 (B) in courses required for matriculation. Applicants are interviewed and must submit appropriate letters of recommendation.

Applicants who have not completed all the specific course requirements are given individual consideration and may be admitted with conditions, with the approval of the program head.

Students should note additional requirements found at the beginning of this section as well as in the sections "Admission" and "Academic Regulations and Procedures."

Degree requirements

Thirty-three credits are required for the degree.

Students must complete Education 703T, and 30 credits selected from the following courses: Education 704.1T, 704.2T, 721X, 721.1X, 721.2X, 721.3X, 726.4X, 726.5X, 726.6X, 726.7X, 726.8X, 773X.

The program of study must be approved by the program head.

Students must continuously maintain and graduate with a cumulative grade point average of at least 3.00 (B). A student who acquires more than 9 credits below B- cannot be awarded an M.S. in Education in this program.

**Advanced certificate: School psychologist
HEGIS code 0826-02**

Program head: Florence Robinson

Program office: 1105 James Hall

Telephone: 951-5876, 951-5877

Applicants are admitted to this program only in the fall; applications must be filed by March 1.

Matriculation requirements

Applicants must present an M.S. in Education degree for school psychologist (or the appropriate equivalent) as well as the requirements described above under the M.S. in Education degree for school psychologist. The matriculation process for the bilingual school psychologist specialization will include an interview in the language presented for competency.

Advanced certificate requirements

Twenty-seven credits (beyond the master's degree) are required for the advanced certificate; 33 credits are required for the advanced certificate with a specialization in bilingual school psychology.

Students must complete the following courses: Education 715T, 723X, 723.1X, 723.2X, 724X, 726.8X, and 733X.

Students in the bilingual specialization must also complete Education 715.1T and 726.9X. They must pass a language proficiency test in the language presented as their second language.

During the first term, students must file a program of study approved by the program head.

Students must continuously maintain and graduate with a cumulative grade point average of at least 3.00 (B). A student who acquires more than 9 credits below B- cannot be awarded an advanced certificate in this program.

Completion of the advanced certificate program fulfills requirements for provisional certification as school psychologist by the New York State Education Department. Completion of the bilingual specialization fulfills requirements for the bilingual extension to the certificate.

Courses

The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

601X Schools and Communities: The Societal Context of Schooling and the Teaching of Social Studies

30 hours lecture, 30 hours laboratory; 3 credits

Examination of the historical, philosophical, social, political, and cultural contexts of schooling and the roles of schools in a multicultural urban setting. Making the insights of history and the social sciences accessible to children through the social studies curriculum. Strategies for promoting active learning of historical and social science knowledge, processes, and understandings in children in grades PreK–6.

Prerequisite: permission of the department.

602X Introduction to Literacy and the Reading/Writing Process

30 hours lecture, 30 hours laboratory; 3 credits

Approaches to teaching reading/writing; perspectives from theories of psycholinguistics; emergent literacy in the pre-school years; methods and materials for teaching reading/writing as integrated processes in grades K–6; integration with content area subjects; adaptation to meet special needs of children; assessment; supervised field experiences with children. (Not open to students who are enrolled in or have completed Education 746T.)

Prerequisite: a course in literature.

603X Teaching Mathematics in the Elementary School

30 hours lecture, 30 hours laboratory; 3 credits

Approaches to teaching mathematics; perspectives from theories of cognitive development; methods and materials for teaching key concepts, skills, and thinking processes in mathematics, grades PreK–6; analysis of curricula; integration of mathematics with other subject areas; adaptation of instruction to meet special needs of students; assessment; supervised field experiences with children.

Prerequisite: Mathematics 1.95 or a 3-credit mathematics course.

604X Models of Teaching Science in the Elementary Classroom

30 hours lecture, 30 hours laboratory, including field experience; 3 hours

Exploration of effective teaching practices in science; analysis of the connections among curriculum, instruction, and assessment of elementary and early childhood science. Science as a way of knowing the world and a tool for problem solving. Examination and evaluation of cognitive and affective foundations of materials from national curriculum projects; methods and materials for teaching key concepts, skills, and thinking processes in science, grades PreK–6. Integration of science with other subject areas; adaptation of instruction and assessment to meet special needs of students. Issues of gender bias in science teaching. Supervised field experience.

Prerequisite: a 3-credit science course.

605X Integrated Teaching Methods and Student Teaching in Elementary and Early Childhood Grades

30 hours seminar, 240 hours student teaching; 6 credits

Instructional methods for integrating the teaching of communication arts, social studies, science, and mathematics in the elementary and early childhood grades. Development and analysis of curricular materials for urban children of varying cultural backgrounds. Application of the principles of teaching to all aspects of the curriculum. Instructor's approval for site and schedule of hours required.

Prerequisite: completion of methods courses in communication arts, social studies, science, and mathematics.

610X Experiencing Education: Individuals and Communities

45 hours; 3 credits

Comparative analysis of individual experience and social expectations of schooling and higher education in the United States and other countries; autobiographical, descriptive, and critical accounts; comparative readings in history and philosophy of education; contemporary issues and daily life in schools.

Prerequisite: permission of the coordinator for secondary education.

611X Psychological and Sociological Perspectives on Secondary Education and Adolescent Development

45 hours lecture, 30 hours laboratory; 4 credits

Psychological models of development and learning theories; sociology of education; schooling and distinctive community cultures in the United States; microteaching and community study.

Prerequisite: permission of the coordinator for secondary education.

612X Studies of Curriculum in Secondary Education

45 hours lecture, 30 hours laboratory; 4 credits

Curriculum issues in middle/secondary schools; interdisciplinary and integrated curricula; planning instructional lessons/units; testing and assessment; methods of teaching in middle schools; microteaching experiences and fieldwork in middle schools.

Prerequisite or corequisite: Education 611X.

613.1X Instructional Methods in Secondary Education

60 hours; 4 credits

Goals and objectives for teaching in secondary education; planning for instruction; classroom dialogue and questioning; evaluation and assessment; innovative teaching techniques; teaching of students with special needs; subject area curricula.

Prerequisite: Education 611X and 612X.

Corequisite: Education 613.2X.

613.2X Student Teaching Practicum

120 hours laboratory; 3 credits

Student teaching practicum; students will observe classes, teach lessons, and participate in professional activities in a senior high school under the supervision of the course instructor and a cooperating teacher in the school.

Prerequisite: Education 611X and 612X.

Corequisite: Education 613.1X.

665T Seminar on Teaching Methods of Music Education

30 hours; 2 credits

Weekly seminar: Synthesis and application of knowledge and skill in human processes and variations, learning styles and processes, motivation, communication, classroom management, special needs, language acquisition and literacy development, curriculum development, instructional planning and strategies, technology and assessment, and the rights and responsibilities of all involved in the educational process, especially as applied to urban students. Workshops in identifying, reporting, and responding to child abuse and in substance abuse, fire and arson prevention, and safety education.

Prerequisite: permission of the director of the Conservatory of Music, and the head of Adolescence Education and Special Subjects. Completion of all coursework for the Advanced Certificate in Music Education (Music 651T, 658.1T, 658.2T, 658.3T, three courses from Music 660.1T-666.1X, and Music 720.1X).

Corequisite: Education 665.1T.

665.1T Student Teaching

300 hours; 4 credits

Supervised teaching of music in schools. Students spend the equivalent of forty days in schools, during which time they engage in daily, supervised student teaching as appropriate to the certificate.

Prerequisite: Permission of the director of the Conservatory of Music, and the head of Adolescence Education and Special Subjects. Completion of all coursework for the Advanced Certificate in Music Education (Music 651T, 658.1T, 658.2T, 658.3T, three courses from Music 660.1T-666.1X, and Music 720.1X).

Corequisite: Education 665T.

670X Skillful Teaching: Strategies for Effective Instruction and Classroom Management

45 hours; 3 credits

Strategies to assist the in-service teacher in the application of principles of teaching that contribute to student achievement and appropriate student behavior; using the resources of the school and community.

Corequisite: current employment as a teacher or supervisor in a public or approved private school.

680.1T, 680.2T Issues and Strategies in Education

15 hours each term; 1 credit each term.

Timely issues, strategies, and techniques of modern educational practice. Course content varies from term to term. This course is not creditable toward the degrees in education.

Prerequisite: license or certificate to serve as teacher, paraprofessional, or supervisor in day care center, kindergarten, or elementary or secondary school.

700.12T Introduction to Educational Foundations Relating to Literacy Instruction

45 hours; 3 credits

Concepts in educational foundations related to teacher/learner behaviors in literacy. Systematic study of the teacher's role; focus on interactions of people and environments in an educational setting. Topics in educational foundations provide concepts for examining teacher and pupil diversity and teacher role.

Corequisite: Education 701.12T.

700.22T Contextualizing Literacy Instruction: Teacher/Learner Interactions

45 hours; 3 credits

Concepts and discourses in educational foundations and human development as related to interdisciplinary curriculum; classroom application in childhood education with focus on literacy. Study of the teacher's role and impact upon diverse student learning; organizing and teaching of the language arts in the childhood classroom. Pedagogical implications of literacies.

Corequisite: English 702X or 706.1X or 775.1X or 775.2X.

701.01X Human Development

30 hours plus conference; 3 credits

Factors relevant to human growth and development. Theories of child, adolescent, and family development and transitions across the life-span in diverse urban school settings. Consideration of social, cultural, and linguistic contexts. Study of gender identity and sexual orientation. Focus on application of life-span developmental theory in school counseling practice for facilitating optimal development for all students. Attention to issues of students with special needs. Required projects in school or community settings.

Prerequisite: Education 724.09T.

701.02T Fundamentals of Qualitative and Quantitative Research

30 hours plus conference; 3 credits

Descriptive, experimental, case-study, action research and other models of research relevant to counseling and education. Collection and use of data to identify and address issues affecting the quality of education. Planning and implementing a research project in school or community settings.

Prerequisite: Education 724.07T.

701.03T Internship I

300 hours; 3 credits

A term of supervised internship in a work setting similar to that in which the student expects to work as a counselor. This course is the first of two required supervised internships in urban school counseling. Counseling interns are required to provide 120 hours of direct counseling/consultation service with clients and 180 hours of indirect collateral service (including staff meetings and on-site supervision) at an

approved internship site. Students also participate in weekly group supervision devoted to evaluation of counseling, consultation, advocacy, and leadership drawing on self-report, journals, audio or videotapes of counseling sessions, and selected advanced counseling topics.

Prerequisite: Education 715.1T.

701.04T Internship II

300 hours; 3 credits

Continuation of Education 701.03T. This course is the second of two required supervised internships in urban school counseling. Counseling interns are required to provide 120 hours of direct counseling/consultation service with clients and 180 hours of indirect collateral service (including staff meetings and on-site supervision) at an approved internship site. Students also participate in weekly group supervision devoted to evaluation of counseling, consultation, advocacy, and leadership drawing on self-report, journals, audiotapes of counseling sessions, and selected advanced counseling topics.

Prerequisite: Education 756.12T.

701.12T Introduction to Literacy Research

30 hours lecture, 30 hours laboratory; 3 credits

Educational research as applied to analysis of teacher/learner behaviors in literacy instruction. Use of educational research techniques, including exploratory (diagnostic) techniques, to analyze functioning of teachers in urban schools with children of diverse abilities and cultural backgrounds.

Corequisite: Education 700.12T.

701.23T Seminar in Applied Theory and Research in Mathematics Education: I

30 hours lecture; 30 hours laboratory; 3 credits

Educational research as applied to the analysis of teaching and learning of mathematics. Qualitative and quantitative research. Use of educational research techniques to analyze teaching and learning of mathematics in urban schools. Mathematics vocabulary, reading, and writing in mathematics. Focus on children with special needs and English-language learners. Nature and design of action research in mathematics education. Selection of a research topic and questions, review of related research.

Prerequisite: Education 713.23T.

701.25T Foundations and Analysis of Teaching I

30 hours lecture, 30 hours laboratory; 3 credits

Educational research as applied to analysis of teaching and learning with an emphasis on science and environmental education. Discussion of a range of research methodologies including action research and uses of technology to access and process information in educational research to analyze functioning of teachers in urban schools with children of diverse abilities and backgrounds. Field trips will be required.

701.32T Teaching Young Children with Special Needs

30 hours lecture, 30 hours field experience; 3 credits

Development of competencies needed to teach young children with special needs; formal and informal assessment, goal setting, and integration of theories of learning, the expressive arts and research validated practice into curriculum across a variety of content areas. Field experience in a setting with young children who present difficulties in adjustment and cognition. Focus on reflective practice and on the development of nurturing and stimulating learning environments.

701.33T Collaborative Planning and Teaching Students with Special Needs

30 hours lecture, 30 hours field experience; 3 credits

Development of competencies needed to teach school-aged students with special needs effectively. Integration of theories of learning, the expressive arts and research validated practice into curriculum across a variety of content areas. Field experience in a setting with students who present difficulties in adjustment and cognition. Focus on transition planning, collaborative models for teaching, goal setting, and decision making in culturally appropriate context.

702.12T Seminar in Applied Theory and Research in Literacy I

30 hours lecture, 30 hours laboratory; 3 credits

Advanced concepts of educational research, including design of experiments and utilization of results of research.

Application of techniques of research using materials relevant to literacy. Consultation and application in appropriate field settings. Design and implementation of an original research project. It must be continued and completed in 703.12T.

Prerequisite: Education 713.12T and 720.12T or Education 733.12T and 720.12T.

702.22T Seminar in Applied Theory and Research I

45 hours; 3 credits

Concepts and methods of educational theory and research. Application of techniques of research, with focus on classroom research and its impact on student learning, integrating instruction relevant to science inquiry and research technology. Formulation and development of a preliminary research project relevant to teaching and learning in childhood education.

Corequisite: General Science 603T or 604.1T.

702.23T Seminar in Applied Theory and Research in Mathematics Education: II

30 hours lecture; 30 hours laboratory; 3 credits

Continuation of Education 701.23T. Techniques for analyzing qualitative and quantitative data. Design, implementation, and reporting a research project. Current issues in mathematics education. Professional leadership in mathematics education.

Prerequisite: Education 701.23T.

702.25T Seminar in Applied Theory and Research: Science and Environmental Education

30 hours lecture, 30 hours laboratory; 3 credits

Advanced concepts of educational research, including research study design and utilization of results of research. Application of techniques of research, using materials relevant to science and environmental education. Consultation and application in appropriate field settings. Design and implementation of an original research project. Field trips will be required.

703T Research Seminar in School Psychology

30 hours plus independent work and conference; 3 credits

Introduction to problems of research design in school psychology. Problems of method and procedure are studied by surveying representative articles in the literature. Students formulate and discuss a research design.

Prerequisite: matriculation in the school psychologist program, Education 726.6X, 12 credits in the school psychologist program, permission of the instructor, permission of the program head.

703.12T Seminar in Applied Theory and Research in Literacy II

30 hours lecture, 30 hours laboratory; 3 credits

Continuation of Education 702.12T.

Prerequisite: Education 702.12T.

703.22T Seminar in Applied Theory and Research II

45 hours; 3 credits

Continuation of Education 702.22T. Implementation of research project relevant to teaching and learning in the childhood education classroom; focus upon current pedagogical inquiry, educational research, and innovative practices related to effective teaching, including issues of technology in education, English language learners and students with special needs.

Prerequisite of 703.22T: Education 702.22T.

703.33T Seminar in Applied Theory and Research

30 hours lecture, 30 hours laboratory; 3 credits

Continuation of the study of educational research and methodology and completion of an independent research project related to an area of special education.

Prerequisite: Education 750.7T.

704.1T Fieldwork in School Psychology I

15 hours lecture, 100 hours laboratory; 2 credits

Supervised observation and experience in educational and clinical settings.

Prerequisite: matriculation in the school psychologist program and permission of the program head.

704.2T Fieldwork in School Psychology II

15 hours lecture, 100 hours laboratory; 2 credits

Supervised observation and experience in educational and clinical settings.

Prerequisite: matriculation in the school psychologist program and permission of the program head.

705.11T Seminar in Principles, Practices, and Environments in Early Childhood Education

45 hours; 3 credits

Analysis of case studies, relevant research, classroom interactions, and environments as related to early childhood teacher practice with culturally and linguistically diverse young children, including children with special needs. Selected current issues in classroom organization and design for children from birth through the second grade. Other topics derived from students' classroom experience. Development of a reflective approach to teaching; individualized instruction, organizing for effective support, guidance of learning, and planning.

705.13T Child Development in Social, Cultural, and Educational Contexts

30 hours plus conference; 3 credits

Advanced seminar that focuses on childhood development from birth through grade two. Childrearing and early education in diverse cultural contexts, with a focus on urban settings. Theoretical approaches to understanding child development; parental ethnotheories about the structuring of everyday social and educational experiences for the acquisition of culture-specific social and cognitive skills in young children, including English language learners and children with special needs. Culture and early childhood education practice from a comparative perspective; teacher-child and peer relationships; educational policies.

706.11T Social, Historical, and Philosophical Construction of Early Childhood Education

45 hours; 3 credits

Interdisciplinary analysis of the construction of early childhood education; impact of political, economic, social, cultural, and technological changes on the discourse of early childhood studies and the field of early childhood education. Changing views of children in various cultural contexts; curricular, pedagogic, and policy implications; comparative studies of early childhood education in a global context, with special emphasis on urban settings.

707.11T Introduction to Research in Early Childhood Education

30 hours plus conference; 3 credits

Principles and methods and problems in the development of formal and informal research in early childhood education with emphasis on research in classroom settings.

Development of observation and recording methodologies

emphasizing the role of teacher as researcher. Scope and variety of educational research; principles and characteristics of qualitative and quantitative research; structure and organization of a research project. Review of research literature related to current themes and issues in education.

Prerequisite: Education 705.13T or 706.11T.

708.2T Supervised Laboratory and Field Experience

30 hours seminar; 60 hours laboratory and directed independent activity; 4 credits

Consideration of specific aspects of human behavior in a variety of work or community settings. Observation and discussion of behavior. Preparation of materials.

Prerequisite: matriculation in the guidance and counseling program and Education 709.1T and 724.3T and permission of the program head.

Corequisite: Education 709.2T.

708.11T Environments for Young Children with Special Developmental and Learning Needs

45 hours; 3 credits

An examination of disabilities in young children and their effect upon development and learning. Implications for the educative environment. Development of social interaction skills and positive behavior supports for all young children, including English language learners. Role of families and educators in creating learning environments at home and in educational settings; interagency collaboration.

Prerequisite: Education 705.13T or 706.11T or permission of the program head.

709.11T Imagination, the Arts, and Multidisciplinary Learning

45 hours; 3 credits

Multidisciplinary curriculum through the creative arts. The creative process; experiential approach to the study of works of art in music, dance, theater, and the visual arts. Integrating the arts with other curriculum areas for all children, including English language learners and children with special needs.

A global perspective that draws upon diverse cultures.

Based on the collaborative work between the Lincoln Center Institute for the Arts in Education and the School of Education. Lincoln Center Institute for the Arts in Education practice and other approaches to aesthetic education and learning. Guest teachers/artists.

Prerequisite: Education 705.13T or 706.11T.

709.13T Visual Arts in Early Childhood Education

30 hours plus conference; 3 credits

Pedagogical approaches to integrating the visual arts in early childhood curriculum. Analysis and application of theory and research to the teaching of the visual arts for all young children, birth through grade two, including culturally and linguistically diverse children, as well as children with special

needs. Philosophies and goals of visual arts education, particularly as they apply to diverse, urban communities. Artistic development in early childhood within varied social, cultural, and environmental contexts. Role of materials and experience as they apply to artistic learning in young children. Work with a variety of artistic forms and media, field trips.

Prerequisite: 705.I1T or 706.I1T.

709.15T Play in Cross-cultural Contexts

30 hours plus conference; 3 credits

Theories and research findings on young children's play in culturally and linguistically diverse early childhood, family, and community settings. Implications of play for the intellectual, social, emotional, and physical development of all children, including children with special needs, from infancy through the early childhood years. Play in the early childhood curriculum; role of the teacher in facilitating children's play.

710T Internship Seminar in Educational Administration

30 hours seminar plus conference; 3 credits

Weekly seminar to analyze practical problems related to the student's concurrent internship.

Prerequisite: Education 771X, 772.3X, 775.IX, 775.2X; matriculation in the educational administration and supervision program and permission of the program head.
Corequisite: Education 778.IT.

710.I1T Mathematics in Early Childhood

30 hours plus conference, 25 hours field experience;
3 credits

Study of early childhood curriculum and instruction in mathematics for all young children, including English language learners and children with special needs. Topics include mathematical content; development of cognitive processes; selection and use of instructional resources; interdisciplinary and thematic teaching; family involvement; assessment options and the appropriate use of technological tools. Students who possess a New York State Initial Certificate in Early Childhood Education or its equivalent may complete the field experience in their own early childhood classrooms; students who do not possess a New York State Initial Certificate in Early Childhood Education or its equivalent will complete the field experience under the direct supervision of a certified teacher.

Prerequisite: Education 705.I3 or 706.I1T; Education 44.I or equivalent or examination or portfolio or approval of the program head.

710.I3T Scientific Inquiry in Early Childhood Education

30 hours plus conference, 25 hours field experience;
3 credits

Approaches to nurturing curiosity in children, from infancy through the early childhood years. Development of educational environments to promote scientific curiosity and

playful exploration in young children, including English language learners and children with special needs. Integration of science in the early childhood curriculum; exploration of natural environments; creative representation of science learning. Family involvement in science education; familiarity with technologies and community resources. Students who possess a New York State Initial Certificate in Early Childhood Education or its equivalent may complete the field experience in their own early childhood classrooms; students who do not possess a New York State Initial Certificate or its equivalent will complete the field experience under the direct supervision of a certified teacher.

Prerequisite: 705.I3T or 706.I1T.

711.3T Historic Innovations in Educational Method and Curriculum

30 hours plus independent work; 3 credits

Critical study of major historical developments in educational method and curriculum. Conditions and motivations that relate to curriculum change and development of method.

Prerequisite: a master's degree or matriculation in a teacher education program; and Education 711T or the equivalent.

712T Education and Culture in the United States

45 hours; 3 credits

Analysis of the implication for education of major cultural developments in the United States today. Actual and potential role of the school considered from cultural perspectives.

712.12T Advanced Methodology and Practice in Literacy, Kindergarten to Grade 2

30 hours lecture, 30 hours laboratory; 3 credits

Development, application, and implementation of literacy strategies in supervised practice, with individual children of diverse abilities. Development of curriculum materials based on the theories and research findings discussed in the area of literacy from birth to grade 2. Research designed to test the applicability of these materials to learners of diverse abilities.

Prerequisite: Education 716.12T and 717.12T.

Corequisite: Education 719.12T.

712.22T Advanced Study of Pedagogy and Curriculum in Childhood Education I

45 hours; 3 credits

Development, application, and implementation of curriculum based upon the theories and research findings studied and discussed in childhood education. Focus on advanced techniques of pedagogical practice, including aesthetic education, assessment and use of technology in childhood education, and the development of interdisciplinary curriculum in democratically modeled classrooms. Emphasis on integrating the social sciences into the social studies curriculum.

Corequisite: an approved course in the social sciences.

712.23T Childhood Mathematics Education:**Advanced Methodology and Practice**

30 hours lecture; 30 hours laboratory; 3 credits

Development, application, and implementation of methodology and materials, and related research and theoretical perspectives. Principles and standards for mathematics curriculum, instruction, and assessment. Emphasis on teaching and learning in the number, operations, and algebra strands of the 1–6 curriculum. Organization for instruction. Literacy and mathematics. Thematic instruction. Use of technology in teaching and learning mathematics.

Prerequisite: two of the following mathematics courses: 604.1T, 604.2T, 604.3T, 604.4T, 605.5T, 605.6T, or mathematics courses approved by the program adviser.

712.25T Advanced Practice in Science and Environmental Teaching and Learning I

30 hours lecture, 30 hours laboratory; 3 credits

Implementation, adaptation, and assessment in practice of research validated curricula. Approaches to integrating science in teaching and learning language arts, humanities and social sciences; children's science and environmental literature; development of oral and written communication skills in the context of childhood science inquiry. Adapting pedagogy to the needs of English language learners and students with diverse learning styles. Examination of environmental ethics and issues. Field trips will be required.

Corequisite: General Science 604.3T.

713.12T Advances Methodology and Practice in Literacy, Grades 3 to 6

30 hours lecture, 30 hours laboratory; 3 credits

Continuation of Education 712.12T.

Prerequisite: Education 712.12T and 719.12T.

Corequisite: Education 720.12T.

713.22T Advanced Study of Pedagogy and Curriculum in Childhood Education II

45 hours; 3 credits

Continuation of Education 712.22T. Development, application, and implementation of curriculum based on the theories and research findings in childhood education. Advanced pedagogical practice and interdisciplinary curriculum development; focus on learning and teaching mathematics in childhood education, including use of technology; English language learners and students with special needs; national, state, and local curriculum standards and guidelines.

Corequisite: an approved course in mathematics or Education 789.10T.

713.23T Middle Childhood Mathematics Education: Advanced Methodology and Interdisciplinary Approaches

30 hours lecture, 30 hours laboratory; 3 credits

Continuation of Education 712.23T. Emphasis on teaching and learning involving fractions, decimals, and percents,

measurement/geometry, probability, and data interpretation. Interdisciplinary approaches involving mathematics and science, social studies, and literacy. Writing and assessment in mathematics. Diagnostic techniques, and adaptations of materials and methods for special needs learners. Introduction to research paradigms in mathematics education.

Prerequisite: Education 712.23T.

713.25T Advanced Practice in Science and Environmental Teaching and Learning II

30 hours lecture, 30 hours laboratory; 3 credits

Continuation of Education 712.25. Methods of integrating science with math and technology with an emphasis on physical and earth science. Developing quantitative and critical thinking skills. Design and assessment of inquiry- and problem-based curriculum integrating mathematics. Adapting methods to the needs of students with disabilities, and students with diverse learning styles. Mathematical modeling in the sciences. Purposes and types of student assessment. Field trips will be required.

Prerequisite: Education 712.25T.

715T Problems and Practices in School Psychology

30 hours plus independent work and conference; 3 credits

Study of typical school problems of individuals and groups through the use of records, interviews, classroom observations, nontest data, and other casework procedures. Role of the school psychologist as related to curriculum, school administration, evaluation, and other issues. Dynamics of the interaction between children and adults in a school setting.

Prerequisite: 25 credits in the school psychologist program, including Education 704.1T and 704.2T, and permission of the program head.

715.1T Multicultural Counseling and Consultation in Schools

45 hours; 3 credits

Clinical skills necessary for pupil personnel services providers to work effectively with multilingual and culturally diverse populations. This experience-based course will develop awareness of cultural, linguistic, and ethnic factors that influence and shape behavior and development. Personal history, literature, and films will be analyzed in the contexts of acculturation and identity. Current research and theoretical and applied knowledge in this field will be reviewed. Students will integrate theoretical and applied knowledge in written assignments and presentations.

Prerequisite: Education 733X or 724.1T or equivalent.

716X Educational Programs and Practices in Comparative Perspective

30 hours lecture plus conference; 3 credits

Comparative analysis of curriculum practices and teaching methods in selected countries. Innovations, experiments, and other aspects of special interest. Evaluation of foreign educational research. Trends in the international coordination of school curricula.

716.12T Topics in Literacy Education: Learning Environments

45 hours lecture; 3 credits

Relationships of selected factors within family, school, and society as they influence the learner's growth in literacy. Developing the teacher's ability to respond to the talents, needs, and abilities of the learner by structuring appropriate literacy environments from birth to grade 6. Study of recent research on environments that facilitate literacy for all children including English language learners, bi-dialectal, and children with special needs.

Prerequisite: Education 700.12T and 701.12T.

Corequisite: Education 717.12T.

716.25T Science Instruction Beyond the Classroom

30 hours lecture, 30 hours field; 3 credits

Designing appropriate learning environments for science in classrooms, schoolyards, and at such nonformal science settings as museums, parks, botanical gardens, and environmental centers. Field experience at nonformal science institutions. Implications for pedagogy and curriculum development.

716.33T Collaboration with Families

45 hours lecture, 3 credits

Issues of disability as it affects the family unit; development of teacher competence in applying appropriate collaborative approaches and strategies, utilizing community resources, and improving communication in culturally and linguistically diverse contexts. Critical exploration of research.

717X International Dimensions in American School Curricula

30 hours plus independent work and conference; 3 credits

Analysis of the effectiveness of school programs, practices, and materials in developing bases for international understanding. Emphasis on problems of nationalism, ethnocentrism, and prejudice. Analysis and use of community resources for international features of the curriculum.

Prerequisite: Education 706T or the equivalent.

717.12T Topics in Literacy Education: Communication

45 hours lecture; 3 credits

Analysis of recent research findings in language acquisition and in the development and use of verbal and nonverbal communication skills from birth to grade 6. The influence of group membership and cultural pluralism on the development of these skills with special attention to the bi-dialectal child and the English language learner. Analysis of the implications for literacy education.

717.33T Special Issues in Education: Communication and School-age Students with Special Needs

30 hours lecture plus conference; 3 credits

Study of language acquisition including childhood bilingualism and speech, hearing, and communication problems of students with disabilities. Understanding the distinction between language disorders and language acquisition problems. Techniques of nonverbal communication including the unique aspects of artistic representation. Assistive technology for enhancing communication and access to general education curriculum; influence of group membership and culture on development of communication skills. Implications for collaboration with professionals, diverse families, and community organizations. Field experiences.

718.22T Social Discourses in Education: Integrating Social Sciences in Childhood Education

30 hours; 30 hours field experience; 3 credits

Implications for education of educational, social, historical, and political factors influencing urban schooling and exploration of the role of schools in a multicultural society. Consideration of the implications of the social and cultural contexts of integrating social sciences and humanities into the curriculum. Approaches to teaching, including English language learners and students with special needs. Analysis of recent research in social studies curricula, technology and education, and citizenship education.

718.32T Special Issues in Education: Learning Environments

45 hours lecture; 3 credits

Implementation of supportive and enriched learning environments that influence the development of the young child with special needs. Focus on emerging trends and current research. Examination of the influence of the expressive arts and play on the development of young children with special needs from birth through early childhood.

718.33T Special Issues in Education: Classroom and School-wide Learning Environments

45 hours lecture; 3 credits

Themes of interest and in teaching students with learning and developmental disabilities. Focus on emerging trends and research. Validated approaches in curriculum, instruction, and positive behavioral supports. Examination of the politics of labeling, the construction of disability, and the influence of school culture on inclusion and the development of least restrictive learning environments. Implications for school reform. Independent and small group study.

719T Learning Theory and the Education Process

45 hours; 3 credits

Critical exposition, in light of recent research, of present developments in learning theory and their import for

education. Examination of the psychological approach to such representative educational problems as drill, rewards, punishment, meaning, organization, motivation, programmed learning.

Prerequisite: a course in educational psychology and a course in child or adolescent psychology and a course in an additional area of psychology.

719.1T Education and Theories of Mind

30 hours plus independent work; 3 credits

Logic of learning (believing, knowing, thinking, understanding). Analysis of the concept of learning in educational theory and practice. Implications of the philosophy of mind for the evaluation of teaching and learning.

Prerequisite: a master's degree or matriculation in a teacher education program; and Education 731T or the equivalent.

719.4T Programmed Instruction

30 hours plus conference and independent work; 3 credits

Critical evaluation of the theories underlying programmed instruction. Examination of research findings concerning the effectiveness of teaching machines, programmed texts, and related devices. Practice in the preparation of programmed materials.

Prerequisite: a course in educational psychology or the psychology of learning.

719.11T Independent Project and Research Seminar

30 hours plus conference; 3 credits

Development and completion of an independent project related to an area of early childhood education.

Prerequisite: Education 707.11T.

719.12T Assessment of Literacy Skills and Instructional Strategies

45 hours; 3 credits

Analysis of theories and recent research relating to influences on behaviors critical to literacy processes; ways to assess and improve students' literacy abilities through the use of records, interviews, observations, and formal and informal assessments. Procedures for the selection, administration, and evaluation of test materials. Study of illustrative case studies including English language learners, and students with special needs. (Not open to students who have completed 715.12T, 718.12T and 745.1T.)

Prerequisites: Education 716.12T and 717.12T or Education 726.12T and 727.12T.

Corequisites: Education 712.12T or 732.12T.

720X Cognitive and Intellectual Development

45 hours; 3 credits

Critical exposition, in light of recent research, of developments in the fields of cognitive and intellectual development.

Examination of the psychological bases for such representative

educational issues as readiness, grouping, learning to learn, curriculum structure, transfer, and concept learning.

Prerequisite: a course in educational psychology and a course in child or adolescent development.

720.1X The Use and Interpretation of Intelligence, Diagnostic, and Aptitude Tests

30 hours lecture plus independent projects and conferences; 3 credits

Evaluation of tests commonly used for measurement of intelligence, personality, achievement, individual interests, and special aptitudes. Study of procedures for construction, selection, and interpretation of standardized testing materials and of computer-referenced testing are considered in relation to needs of members of the class. Class and individual student projects appropriate to subject specialization of students.

Prerequisite or corequisite: a course in student teaching.

720.2X Measurement and Evaluation in Teaching

30 hours lecture plus independent projects and conferences; 3 credits

Applied course designed for teachers, and subject and curriculum specialists. Participants plan, develop, try out, and evaluate procedures for assessing student performance. Procedures covered include criterion-referenced tests, formative and summative evaluation techniques, evaluation through the curriculum, and applications of microcomputers to classroom assessment. Class and individual projects appropriate to subject specialization of students.

720.11T Language Learning and Development in Young Children

45 hours; 3 credits

The structure, acquisition, and development of language and oral and written communication in young children, including English language learners and children with special needs. Language and communication development within the context of children's development; role of family, community and culture. Study of linguistic structures, including phonological, syntactic and semantic development. Creating language- and text-rich environments for young children.

Prerequisite: Education 705.13T or 706.11T.

720.12T Administration of Literacy Programs

45 hours; 3 credits

Theory and practice of the leadership role of literacy specialists in school and community literacy programs. Techniques for successful exercise of leadership in developing goals, providing professional development, working with families and communities, and implementing literacy programs.

Prerequisites: Education 712.12T or 732.12T.

Corequisites: Education 713.12T or 733.12T.

721X Psychology of Learning Difficulties I

30 hours lecture, 30 hours laboratory; 3 credits

Theories and research findings regarding children who have difficulty learning in school. Diagnosis, etiology, and remediation of learning difficulties with individual and group techniques. Two hours of lecture and discussion are held weekly on campus and two hours each week of supervised instructional experience in the diagnosis and correction of learning difficulties are spent in a school. Conferences with school personnel and parents.

Prerequisite: matriculation in the school psychologist program and Education 721.IX and 726.4X and permission of the program head.

Prerequisite or corequisite: Education 726.6X.

721.IX Personality Theory I

30 hours plus independent work and conference; 3 credits

Contributions of psychoanalysis to theories of child development and personality.

Prerequisite: matriculation in the school psychologist program and permission of the program head and a course or courses in abnormal psychology and developmental psychology and psychology of personality.

721.2X Personality Theory II

30 hours plus independent work and conference; 3 credits

Contributions to theories of child development and personality of such sources as learning, field, and role theories. Other contemporary developments.

Prerequisite: matriculation in the school psychologist program and Education 721.IX and permission of the program head.

721.3X Consultation in the Schools

30 hours lecture, 30 hours laboratory; 3 credits

School-based consultation, with emphasis on mental health, instructional, and behavioral models; acquisition of clinical skills in consultation implementation; consultation philosophies and theoretical bases, components, advantages, and limitations; exploration of skills and attitudes necessary for working with culturally diverse groups, and the implications for effective practice; application of consulting knowledge and skills in both laboratory and field situations; exploration of recent developments, trends, and research in consultation.

Prerequisite: matriculation in the school psychologist program; Education 721.IX and 726.4X; and permission of the program head.

Prerequisite or corequisite: Education 726.6X.

721.4X Psychology of Learning Difficulties II

30 hours lecture, 30 hours laboratory; 3 credits

Theories and research on emotional, genetic, and familial factors that inhibit the child's learning. Diagnosis, etiology, and remediation of these disorders. Two hours of lecture and two hours of supervised fieldwork each week. Consultation with parents and professional personnel.

Prerequisite: matriculation in the school psychologist program and Education 721X and permission of the program head.

Adolescence education and special subjects

Courses 721.01T–721.17T are intended for students pursuing programs in adolescence education or special subjects.

Students take the course appropriate to their area.

- .01 English
- .02 Social studies
- .03 Mathematics
- .04 Science
- .11 Modern languages
- .13 Physical education
- .16 Health science
- .17 Art

721.01T Critical Issues in Education—Social Values and Individual Needs: English

30 hours lecture, 30 hours laboratory; 3 credits

Systematic study of the teacher's role, focusing on interactions of people and environments in an educational setting. Topics in educational foundations provide concepts for examining teacher and student diversity and teacher role. Exploratory research techniques.

721.02T Critical Issues in Education—Social Values and Individual Needs: Social Studies

30 hours lecture, 30 hours laboratory; 3 credits

Systematic study of the teacher's role, focusing on interactions of people and environments in an educational setting. Topics in educational foundations provide concepts for examining teacher and student diversity and teacher role. Exploratory research techniques.

721.03T Critical Issues in Education—Social Values and Individual Needs: Mathematics

30 hours lecture, 30 hours laboratory; 3 credits

Systematic study of the teacher's role, focusing on interactions of people and environments in an educational setting. Topics in educational foundations provide concepts for examining teacher and student diversity and teacher role. Exploratory research techniques.

721.04T Critical Issues in Education—Social Values and Individual Needs: Science

30 hours lecture, 30 hours laboratory; 3 credits

Systematic study of the teacher's role, focusing on interactions of people and environments in an educational setting. Topics in educational foundations provide concepts for examining teacher and student diversity and teacher role. Exploratory research techniques.

721.11T Critical Issues in Education—Social Values and Individual Needs: Modern Languages

30 hours lecture, 30 hours laboratory; 3 credits

Systematic study of the teacher's role, focusing on interactions

of people and environments in an educational setting. Topics in educational foundations provide concepts for examining teacher and student diversity and teacher role. Exploratory research techniques.

721.13T Critical Issues in Education—Social Values and Individual Needs: Physical Education

30 hours lecture, 30 hours laboratory; 3 credits

Systematic study of the teacher's role, focusing on interactions of people and environments in an educational setting. Topics in educational foundations provide concepts for examining teacher and student diversity and teacher role. Exploratory research techniques.

721.16T Critical Issues in Education—Social Values and Individual Needs: Health and Nutrition Sciences

30 hours lecture, 30 hours laboratory; 3 credits

Systematic study of the teacher's role, focusing on interactions of people and environments in an educational setting. Topics in educational foundations provide concepts for examining teacher and student diversity and teacher role. Exploratory research techniques.

721.17T Critical Issues in Education—Social Values and Individual Needs: Art

30 hours lecture, 30 hours laboratory; 3 credits

Systematic study of the teacher's role, focusing on interactions of people and environments in an educational setting. Topics in educational foundations provide concepts for examining teacher and student diversity and teacher role. Exploratory research techniques.

Adolescence education and special subjects

Courses 722.01T–722.17T are intended for students pursuing programs in adolescence education or special subjects.

Students take the course appropriate to their area.

- .01 English
- .02 Social studies
- .03 Mathematics
- .04 Science
- .11 Modern languages
- .13 Physical education
- .16 Health science
- .17 Art

722.01T Advanced Seminar in Pedagogy and Curriculum: English

30 hours lecture; 30 hours laboratory; 3 credits

Expansion of the student's knowledge and skills in English to develop individual approaches to effective teaching in different classroom situations. Improving teaching methods through review of relevant research, reflection on self-as-teacher; analysis of classroom interactions, discourse, and effective teaching and learning environments. Introduction to methods of educational research. Analysis of modes of communication in the classroom. Examination of the

specialized discourses of the discipline and implications for teaching.

Prerequisite: Initial Certification or Education 742X, 792.IX, 763.01T, 764.5T, 723.01T, and 764.51T or equivalents.

Prerequisite or corequisite: Education 742.2T.

722.02T Advanced Seminar in Pedagogy and Curriculum: Social Studies

30 hours lecture; 30 hours laboratory; 3 credits

Expansion of the student's knowledge and skills in social studies to develop individual approaches to effective teaching in different classroom situations. Improving teaching methods through review of relevant research, reflection on self-as-teacher; analysis of classroom interactions, discourse, and effective teaching and learning environments. Introduction to methods of educational research. Analysis of modes of communication in the classroom. Examination of the specialized discourses of the discipline and implications for teaching.

Prerequisite: Initial Certification or Education 742X, 792.IX, 763.02T, 764.5T, 723.02T, and 764.51T or equivalents.

Prerequisite or corequisite: Education 742.2X.

722.03T Advanced Seminar in Pedagogy and Curriculum: Mathematics

30 hours lecture; 30 hours laboratory; 3 credits

Expansion of the student's knowledge and skills in mathematics to develop individual approaches to effective teaching in different classroom situations. Improving teaching methods through review of relevant research, reflection on self-as-teacher; analysis of classroom interactions, discourse, and effective teaching and learning environments. Introduction to methods of educational research. Analysis of modes of communication in the classroom. Examination of the specialized discourses of the discipline and implications for teaching.

Prerequisite: Initial Certification or Education 742X, 792.IX, 763.03T, 764.5T, 723.03T, and 764.51T or equivalents.

Prerequisite or corequisite: Education 742.2T.

722.04T Advanced Seminar in Pedagogy and Curriculum: Science

30 hours lecture; 30 hours laboratory; 3 credits

Expansion of the student's knowledge and skills in science to develop individual approaches to effective teaching in different classroom situations. Improving teaching methods through review of relevant research, reflection on self-as-teacher; analysis of classroom interactions, discourse, and effective teaching and learning environments. Introduction to methods of educational research. Analysis of modes of communication in the classroom. Examination of the specialized discourses of the science disciplines and implications for teaching.

Prerequisite: Initial Certification or Education 742X, 792.IX, 763.04T, 764.5T, 723.04T, and 764.51T or equivalents.

Prerequisite or corequisite: Education 742.2T.

722.I1T Advanced Seminar in Pedagogy and Curriculum: Modern Languages

30 hours lecture; 30 hours laboratory; 3 credits

Expansion of the student's knowledge and skills in the language to develop individual approaches to effective teaching in different classroom situations. Improving teaching methods through review of relevant research, reflection on self-as-teacher; analysis of classroom interactions, discourse, and effective teaching and learning environments. Introduction to methods of educational research. Analysis of modes of communication in the classroom. Examination of the specialized discourses of the language and implications for teaching.

Prerequisite: Initial Certification or Education 742X, 792.IX, 763.I1T, 764.5T, 723.I1T, and 764.51T or equivalents.

Prerequisite or corequisite: Education 742.2T.

722.I3T Advanced Seminar in Pedagogy and Curriculum: Physical Education

30 hours lecture; 30 hours laboratory; 3 credits

Expansion of the student's knowledge and skills in physical education to develop individual approaches to effective teaching in different classroom situations. Improving teaching methods through review of relevant research, reflection on self-as-teacher; analysis of classroom interactions, discourse, and effective teaching and learning environments. Introduction to methods of educational research. Analysis of modes of communication in the classroom. Examination of the specialized discourses of the discipline and implications for teaching.

Prerequisite: Initial Certification or Education 742X, 792.IX, 763.I3T, 764.5T, 723.I3T, and 764.51T or equivalents.

Prerequisite or corequisite: Education 742.2T.

722.I6T Advanced Seminar in Pedagogy and Curriculum: Health and Nutrition Sciences

30 hours lecture; 30 hours laboratory; 3 credits

Expansion of the student's knowledge and skills in health and nutrition sciences to develop individual approaches to effective teaching in different classroom situations. Improving teaching methods through review of relevant research, reflection on self-as-teacher; analysis of classroom interactions, discourse, and effective teaching and learning environments. Introduction to methods of educational research. Analysis of modes of communication in the classroom. Examination of the specialized discourses of the discipline and implications for teaching.

Prerequisite: Initial Certification or Education 742X, 792.IX, 763.I6T, 764.5T, 723.I6T, and 764.51T or equivalents.

Prerequisite or corequisite: Education 742.2T.

722.I7T Advanced Seminar in Pedagogy and Curriculum: Art

30 hours lecture; 30 hours laboratory; 3 credits

Expansion of the student's knowledge and skills in art to develop individual approaches to effective teaching in

different classroom situations. Improving teaching methods through review of relevant research, reflection on self-as-teacher; analysis of classroom interactions, discourse, and effective teaching and learning environments. Introduction to methods of educational research. Analysis of modes of communication in the classroom. Examination of the specialized discourses of the discipline and implications for teaching.

Prerequisite: Initial Certification or Education 742X, 792.IX, 763.I7T, 764.5T, 723.I7T, and 764.51T or equivalents.

Prerequisite or corequisite: Education 742.2T.

723X Practicum in School Psychology

60 hours lecture and group conference; 4 credits

Supervised experience in the educational and clinical functions of the school psychologist as a mental health consultant. Students work in schools and clinics and deal with a wide range of typical problems of the school psychologist.

Prerequisite: matriculation in the school psychologist program and Education 715X and permission of the program head.

Corequisite: Education 723.2X.

723.IX Internship in School Psychology I

600 hours fieldwork, 30 hours lecture; 3 credits

Supervised experience in the clinical functions of the school psychologist.

Prerequisite: matriculation in the school psychologist program and permission of the program head.

Corequisite: Education 715T.

723.2X Internship in School Psychology II

600 hours fieldwork, 15 hours supervision on campus; 3 credits

Supervised experience in the clinical functions of the school psychologist.

Prerequisite: Education 715T and 723.IX.

Adolescence education and special subjects

Courses 723.01T–723.17T are intended for students pursuing programs in adolescence education or special subjects. Students take the course appropriate to their area.

- .01 English
- .02 Social studies
- .03 Mathematics
- .04 Science
- .11 Modern languages
- .13 Physical education
- .16 Health science
- .17 Art

723.01T Seminar II in Pedagogy and Curriculum: English

30 hours; 2 credits

Advanced theories and methods of teaching English at grade levels appropriate for New York State certification requirements; focus on developing reflective practitioners and

research based instruction; analysis of New York State Learning Standards in English; teaching English to all students, including students with special needs and English language learners; integrating technology into the classroom; developing, implementing, and evaluating the English curriculum in urban classrooms. Students enroll in workshops in identifying, reporting, and responding to child abuse and in substance abuse, fire and arson prevention and safety education.

Prerequisite: 742X, 792.IX and permission of the chairperson of the major department and the head of Adolescence Education and Special Subjects.

Prerequisite or corequisite: 763.01T and 764.5T.

Corequisite: 764.51T.

723.02T Seminar II in Pedagogy and Curriculum:

Social Studies

30 hours; 2 credits

Advanced theories and methods of teaching social studies at grade levels appropriate for New York State certification requirements; focus on developing reflective practitioners and research based instruction; analysis of New York State Learning Standards in social studies; teaching social studies to all students, including students with special needs and English language learners; integrating technology into the classroom; developing, implementing, and evaluating the social studies curriculum in urban classrooms. Students enroll in workshops in identifying, reporting, and responding to child abuse and in substance abuse, fire and arson prevention and safety education.

Prerequisite: 742X, 792.IX and permission of the chairperson of the major department and the head of Adolescence Education and Special Subjects.

Prerequisite or corequisite: 763.02T and 764.5T.

Corequisite: 764.51T.

723.03T Seminar II in Pedagogy and Curriculum:

Mathematics

30 hours; 2 credits

Advanced theories and methods of teaching mathematics at grade levels appropriate for New York State certification requirements; focus on developing reflective practitioners and research based instruction; analysis of New York State Learning Standards in mathematics; teaching mathematics to all students, including students with special needs and English language learners; integrating technology into the classroom; developing, implementing, and evaluating the mathematics curriculum in urban classrooms. Students enroll in workshops in identifying, reporting, and responding to child abuse and in substance abuse, fire and arson prevention and safety education.

Prerequisite: 742X, 792.IX and permission of the chairperson of the major department and the head of Adolescence Education and Special Subjects.

Prerequisite or corequisite: 763.03T and 764.5T.

Corequisite: 764.51T.

723.04T Seminar II in Pedagogy and Curriculum: Science

30 hours; 2 credits

Advanced theories and methods of teaching science at grade levels appropriate for New York State certification requirements; focus on developing reflective practitioners and research based instruction; analysis of New York State Learning Standards in science; teaching science to all students, including students with special needs and English language learners; integrating technology into the classroom; developing, implementing, and evaluating the science curriculum in urban classrooms. Students enroll in workshops in identifying, reporting, and responding to child abuse and in substance abuse, fire and arson prevention and safety education.

Prerequisite: 742X, 792.IX and permission of the chairperson of the major department and the head of Adolescence Education and Special Subjects.

Prerequisite or corequisite: 763.04T and 764.5T.

Corequisite: 764.51T.

723.11T Seminar II in Pedagogy and Curriculum: Modern Languages

30 hours; 2 credits

Advanced theories and methods of teaching modern languages at grade levels appropriate for New York State certification requirements; focus on developing reflective practitioners and research based instruction; analysis of New York State Learning Standards in modern languages; teaching modern languages to all students, including students with special needs and English language learners; integrating technology into the classroom; developing, implementing, and evaluating the modern language curriculum in urban classrooms. Students enroll in workshops in identifying, reporting, and responding to child abuse and in substance abuse, fire and arson prevention and safety education.

Prerequisite: 742X, 792.IX and permission of the chairperson of the major department and the head of Adolescence Education and Special Subjects.

Prerequisite or corequisite: 763.11T and 764.5T.

Corequisite: 764.51T.

723.13T Seminar II in Pedagogy and Curriculum: Physical Education

30 hours; 2 credits

Advanced theories and methods of teaching physical education at grade levels appropriate for New York State certification requirements; focus on developing reflective practitioners and research based instruction; analysis of New York State Learning Standards in physical education; teaching physical education to all students, including students with special needs and English language learners; integrating technology into the classroom; developing, implementing, and evaluating the physical education curriculum in urban classrooms. Students enroll in workshops in identifying,

reporting, and responding to child abuse and in substance abuse, fire and arson prevention and safety education.

Prerequisite: 742X, 792.IX, and permission of the chairperson of the major department and the head of Adolescence Education and Special Subjects.

Prerequisite or corequisite: 763.13T and 764.5T.

Corequisite: 764.51T.

723.16T Seminar II in Pedagogy and Curriculum: Health and Nutrition Sciences

30 hours; 2 credits

Advanced theories and methods of teaching health and nutrition sciences at grade levels appropriate for New York State certification requirements; focus on developing reflective practitioners and research based instruction; analysis of New York State Learning Standards in health; teaching health and nutrition sciences to all students, including students with special needs and English language learners; integrating technology into the classroom; developing, implementing, and evaluating the health and nutrition sciences curriculum in urban classrooms. Students enroll in workshops in identifying, reporting, and responding to child abuse and in substance abuse, fire and arson prevention and safety education.

Prerequisite: 742X, 792.IX, and permission of the chairperson of the major department and the head of Adolescence Education and Special Subjects.

Prerequisite or corequisite: 763.16T and 764.5T.

Corequisite: 764.51T.

723.17T Seminar II in Pedagogy and Curriculum: Art

30 hours; 2 credits

Advanced theories and methods of teaching art at grade levels appropriate for New York State certification requirements; focus on developing reflective practitioners and research based instruction; analysis of New York State Learning Standards in art; teaching art to all students, including students with special needs and English language learners; integrating technology into the classroom; developing, implementing, and evaluating the art curriculum in urban classrooms. Students enroll in workshops in identifying, reporting, and responding to child abuse and in substance abuse, fire and arson prevention and safety education.

Prerequisite: 742X, 792.IX, and permission of the chairperson of the major department and the head of Adolescence Education and Special Subjects.

Prerequisite or corequisite: 763.17T and 764.5T.

Corequisite: 764.51T.

724X Group Process in Education

30 hours lecture, 30 hours laboratory plus independent work and conference; 4 credits

Group processes in the classroom affecting the learning, behavior, and mental health of pupils. Role of the school psychologist in analyzing these processes and effecting change

in the group. Laboratory experience in participating in and studying a group.

Prerequisite: matriculation in the school psychologist program and Education 721.IX and 726.4X and permission of the program head.

724.2T Advanced Human Development I

30 hours lecture, 60 hours laboratory and directed independent activity; 4 credits

Theories of emotional and intellectual development from birth through young adulthood. Introduction to anthropological, developmental, psychoanalytic, field, and social psychological theories. Cognitive sequences necessary for intellectual development and effects of socialization experiences.

Prerequisite: matriculation in the guidance and counseling program and Education 724.1T and permission of the program head.

Corequisite: Education 712.2T.

724.3T Advanced Human Development II

30 hours lecture, 60 hours laboratory and directed independent activity; 4 credits

Relation of theories of development to the function of the counselor on the job. Effect of institutions on individual development. Relationship of theories of career development and decision making to general theories of human development.

Prerequisite: matriculation in the guidance and counseling program and Education 756.3T and permission of the program head.

Corequisite: Education 709.1T.

Adolescence education and special subjects

Courses 724.01T–724.17T are intended for students pursuing programs in adolescence education or special subjects. Students take the course appropriate to their area.

- .01 English
- .02 Social studies
- .03 Mathematics
- .04 Science
- .11 Modern languages
- .13 Physical education
- .16 Health science
- .17 Art

724.01T Seminar in Educational Research: English

30 hours lecture, 30 hours laboratory; 3 credits

Advanced concepts of educational research compared and contrasted with modes of inquiry in the discipline; emphasis on qualitative and quantitative research methods and possible uses of research. Analysis of research relevant to teaching English. Formulation, development, and realization of an original research project relevant to teaching and learning English.

Prerequisite: Education 742.IX, 722.01T, and 3 credits of an approved elective course.

**724.02T Seminar in Educational Research:
Social Studies**

30 hours lecture, 30 hours laboratory; 3 credits

Advanced concepts of educational research compared and contrasted with modes of inquiry in the discipline; emphasis on qualitative and quantitative research methods and possible uses of research. Analysis of research relevant to teaching social studies. Formulation, development, and realization of an original research project relevant to teaching and learning social studies.

Prerequisite: Education 742.IX, 722.02T, and 3 credits of an approved elective course.

**724.03T Seminar in Educational Research:
Mathematics**

30 hours lecture, 30 hours laboratory; 3 credits

Advanced concepts of educational research compared and contrasted with modes of inquiry in the discipline; emphasis on qualitative and quantitative research methods and possible uses of research. Analysis of research relevant to teaching mathematics. Formulation, development, and realization of an original research project relevant to teaching and learning mathematics.

Prerequisite: Education 742.IX, 722.03T, and 3 credits of an approved elective course.

724.04T Seminar in Educational Research: Science

30 hours lecture, 30 hours laboratory; 3 credits

Advanced concepts of educational research compared and contrasted with modes of inquiry in the science disciplines; emphasis on qualitative and quantitative research methods and possible uses of research. Analysis of research relevant to teaching the sciences. Formulation, development, and realization of an original research project relevant to teaching and learning science.

Prerequisite: Education 742.IX, 722.04T, and 3 credits of an approved elective course.

724.06T Individual Counseling Skills

30 hours lecture, 30 hours laboratory; 3 credits

Introductory course in counseling skills development designed to increase the qualities of self-awareness and mindfulness. Approaches to intervention. Exploration of specific methods and procedures of individual appraisal. Lecture, demonstration, written assignments, videotape analysis and group practice.

Prerequisite: Education 701.01X

724.07T Group Practicum

30 hours lecture/supervision, 100 hours practicum; 3 credits

Planned program of supervised fieldwork in a setting similar to that in which the student expects to work. Application of leadership and group theory to groups in schools. Students lead, co-lead or consult to groups and/or workshops in school settings; didactic presentations on conflict resolution, classroom dynamics, school leadership teams and other relevant topics;

triadic and small group supervision. Forty hours of direct counseling/consultation services, 60 hours of collateral services with students and families required at this site.

Prerequisite: Education 729.11T.

724.08T Schools and Communities

30 hours plus conference; 3 credits

Interdisciplinary study of relations between schools and communities and their impact on the quality of education in schools. Theories of community and institutional organization, power relationships, and power structures. The role of the counselor in developing relations between schools and communities. Required projects in school or community settings.

Prerequisite: Education 724.10X.

724.09T Counseling Theories

30 hours plus conference; 3 credits

Critical and comprehensive investigation of counseling theories and practices for school counselors working with diverse children and adolescents in school settings. Consideration of issues and strategies important to work with English language learners and students with special needs.

Prerequisite: identified in degree requirements for the M.S. in Education program in School Counseling.

**724.10X Leadership and Group Dynamics:
Theory and Practice**

30 hours lecture, 30 hours laboratory plus conference;
3 credits

Social processes in groups and their impact on individual behavior. Lecture/discussion and membership in an experiential group designed to provide opportunities for learning about group dynamics through an examination of power, authority, leadership, intergroup and interpersonal processes. Application of learning to the practice of effective group leadership and membership in schools.

Prerequisite: Education 735.3X.

**724.11T Seminar in Educational Research:
Modern Languages**

30 hours lecture, 30 hours laboratory; 3 credits

Advanced concepts of educational research compared and contrasted with modes of inquiry in the discipline; emphasis on qualitative and quantitative research methods and possible uses of research. Analysis of research relevant to teaching modern languages. Formulation, development, and realization of an original research project relevant to teaching and learning modern languages.

Prerequisite: Education 742.IX, 722.11T, and 3 credits of an approved elective course.

**724.13T Seminar in Educational Research:
Physical Education**

30 hours lecture, 30 hours laboratory; 3 credits

Advanced concepts of educational research compared and contrasted with modes of inquiry in the discipline; emphasis on qualitative and quantitative research methods and possible uses of research. Analysis of research relevant to teaching physical education. Formulation, development, and realization of an original research project relevant to teaching and learning physical education.

Prerequisite: Education 742.IX, 722.13T, and 3 credits of an approved elective course.

**724.16T Seminar in Educational Research:
Health and Nutrition Sciences**

30 hours lecture, 30 hours laboratory; 3 credits

Advanced concepts of educational research compared and contrasted with modes of inquiry in the discipline; emphasis on qualitative and quantitative research methods and possible uses of research. Analysis of research relevant to teaching health and nutrition sciences. Formulation, development, and realization of an original research project relevant to teaching and learning health and nutrition sciences.

Prerequisite: Education 742.IX, 722.16T, and 3 credits of an approved elective course.

724.17T Seminar in Educational Research: Art

30 hours lecture, 30 hours laboratory; 3 credits

Advanced concepts of educational research compared and contrasted with modes of inquiry in the disciplines; emphasis on qualitative and quantitative research methods and possible uses of research. Analysis of research relevant to teaching art. Formulation, development, and realization of an original research project relevant to teaching and learning art.

Prerequisite: Education 742.IX, 722.17T, and 3 credits of an approved elective course.

725T Education of the Gifted Child

45 hours; 3 credits

Educational and personal needs of the gifted child and youth; models and strategies for differentiating instruction.

725.03X Teaching Mathematics in Middle Childhood

30 hours lecture plus conference; 3 credits

Objectives, methods, and materials for teaching middle childhood mathematics. Creating classroom and school environments to support the mathematics learning of all students in grades 6–8, including students with special needs and English language learners. Analysis of the New York State Learning Standards for mathematics in grades K–12. Diagnosis and remedial treatment of student difficulties in mathematics learning. Role of problem solving and higher order thinking skills in mathematics instruction. Students enroll in workshops in identifying, reporting, and responding

to child abuse and substance abuse, fire and arson prevention and safety education.

Prerequisite: 742X, 792.IX, and permission of the program adviser.

Prerequisite or corequisite: 763.03 and 764.5

Corequisite: Education 763.23 or employment as a mathematics teacher in grades 6–8 or permission of the program head.

725.11T Curriculum Modifications for Young Children with Special Needs

45 hours; 3 credits

Special programs, modifications of curriculum in the content areas, teaching strategies and approaches designed to meet the individual and group needs of culturally and linguistically diverse young children with special needs in a variety of early education settings. Focus on family, community, and interagency partnerships; appropriate use of technology, including assistive technology; multiple assessment strategies.

Prerequisite: Education 705.13T or 706.11T or permission of the program head.

726X Mental Hygiene and Behavior Problems

45 hours; 3 credits

Contributions of mental hygiene to understanding dynamics of behavior. Dynamic aspects of personality development. Typical behavior problems in school, home, and community. Clinical methods in diagnosing and treating personality difficulties. Study and evaluation of typical case materials. Teacher's role in dealing with behavior problems. (Not open to students who have completed Education 726.3X.)

Prerequisite: a course or courses in learning, evaluation, and mental health.

726.1X Children and Youth with Special Needs

45 hours; 3 credits

Characteristics of children with special needs. Implications for the classroom environment regarding assessment, curriculum, management, integration and support of students with special needs in general education settings. Review of legislation and landmark court cases in special education. Focus on collaboration with other professionals including co-teaching, consultative, and itinerant models. Engagement of family members in collaborative efforts.

726.2T Teaching in Least Restrictive Environments

30 hours plus conference; 3 credits

Strategies to integrate and support students with special needs in least restrictive environments. System and organizational change theories and strategies for developing models of inclusive education. Focus on curriculum and collaborative processes with other professionals including co-teaching, consultative, and itinerant models. Engagement of family members in collaborative efforts. Students will implement a consultative/collaborative project. Field experiences in a variety of school and community settings.

726.4X Problems of Child and Adolescent Development I

30 hours plus field trips, independent work, and conference; 3 credits

Normal and typical development. Minority groups, the gifted, mentally retarded, and physically handicapped. Intensive study of illustrative and case material. Biological, psychological, and sociological influences.

Prerequisite: matriculation in the school psychologist program and a course in abnormal psychology and a course in developmental psychology and permission of the program head.

Corequisite: Education 721.1X.

726.5X Problems of Child and Adolescent Development II

30 hours plus field trips, independent work, and conference; 3 credits

Such psychopathological conditions of childhood as behavior disorders, psychoneurotic and psychotic conditions, and brain damage. Relationship to normal development. Intensive study of illustrative and case material. Biological, psychological, and sociological influences.

Prerequisite: matriculation in the school psychologist program and Education 726.4X and permission of the program head.

726.6X Assessment of Behavior I

45 hours lecture, 30 hours laboratory; 4 credits

Measurement of intelligence, aptitude, and achievement with tests given to individuals and groups. Students develop familiarity with administration, scoring, and interpretation of such tests through lecture and laboratory work. Research studies related to standardization of the most representative tests.

Prerequisite: matriculation in the school psychologist program and a course in statistics and a course in tests and measurements and permission of the program head.

726.7X Assessment of Behavior II

45 hours lecture, 30 hours laboratory; 4 credits

Continuation of Education 726.6X. Administration, scoring, and interpretation of personality tests given to individuals and groups. Representative projective techniques. Research findings pertaining to the most commonly used personality procedures.

Prerequisite: matriculation in the school psychologist program and Education 721.1X and 726.6X and permission of the program head.

726.8X Assessment of Behavior III

30 hours lecture, 30 hours laboratory; 3 credits

Continuation of Education 726.7X. Interpretation and integration of findings from tests and observations.

Prerequisite: matriculation in the school psychologist program and Education 726.5X and 726.7X and permission of the program head.

726.9X Assessment of Behavior IV

45 hours; 3 credits

Psychoeducational assessment of language-minority and culturally diverse children and adolescents. Approaches to nonbiased assessment, including testing in the child's native language, bilingual testing, adaptation of standardized instruments and techniques, and dynamic assessment. Students will administer psychoeducational assessment batteries to language-minority individuals, interpret test data, and write reports.

Prerequisite: matriculation in the school psychologist program and Education 726.6X and 726.7X, and permission of the program head.

726.11T Administration and Supervision of Early Childhood Education Programs

45 hours; 3 credits

Approaches to administration and supervision of early childhood settings for children birth through grade two, including children with special needs and children who are English language learners. Culturally and developmentally appropriate practice in programs for young children; curriculum development; program development and evaluation. Public policies and regulations; organizational theory; development and supervision of personnel; management of facilities; finances. Informal and formal assessment of children; communication with and involvement of families and caregivers; community relations; interagency collaboration.

726.12T Teaching Literacy in Middle and Secondary Schools

45 hours lecture; 3 credits

Critical examination of contemporary literacy theories. Methods of teaching current innovative practices aligned with the standards in the language arts curriculum and in content areas. Techniques for developing integrated interdisciplinary units. (Not open to students who have completed 716.12T.)

Prerequisites: Education 700.12T and 701.12T.

Corequisite: Education 727.12T.

727T Childhood and Adolescence in the Urban Community

30 hours plus independent work; 3 credits

Cultural, social, and economic composition of urban communities. Effects of social background on attitudes, behavior, and learning. Implication for guidance, especially in large urban areas. Fieldwork.

727.11T Literacy Curriculum in Early Childhood

30 hours plus conference; 25 hours field experience; 3 credits

Theoretical and methodological approaches to fostering literacy in young children, including English language learners and children with special needs. Study of relationships between speaking, reading, and writing. Research on teaching

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literacy. Development of literacy through literature and the arts. Role of family, community, and culture in young children's literacy learning. Formal and informal assessment. Students who possess a New York State Initial Certificate in Early Childhood Education or its equivalent may complete the field experience in their own early childhood classrooms; students who do not possess a New York State Initial Certificate in Early Childhood Education or its equivalent will complete the field experience under the direct supervision of a certified teacher.

Prerequisite: Education 705.13T or 706.11T.

727.12T Language Structures and Language Development in the Middle and Secondary School and Their Relationship to Literacy

45 hours lecture; 3 credits

Analysis of recent research findings in the development and use of verbal and nonverbal communication skills. A study of the structure of the English language with particular attention to concept development and figurative language. Study of the effects of dialect, second language learning, and language disabilities on the reading, writing, speaking, and listening skills of students in grades 5 through 12. (Not open to students who have completed 717.12T.)

Prerequisites: Education 700.12T and 701.12T.

Corequisite: Education 726.12T.

728.11T Families, Communities, and Social Studies in Early Childhood Education

30 hours plus conference; 25 hours field experience; 3 credits

Approaches to integrating parents, families, and communities into educational environments and curriculum for young children, including children with special needs and children who are English language learners. Teaching social studies to young children beginning with study of the family and community, and leading to study of larger social, political and historical frameworks. Focus on culturally and linguistically diverse urban settings. Students who possess a New York State Initial Certificate in Early Childhood Education or its equivalent may complete the field experience in their own early childhood classrooms; students who do not possess a New York State Initial Certificate in Early Childhood Education or its equivalent will complete the field experience under the direct supervision of a certified teacher.

Prerequisite: Education 705.13 or 706.11.

729.11T Educational and Psychological Assessment

30 hours plus conference; 3 credits

Critical and historical perspectives on the nature and uses of assessment in schools; portfolios, standardized tests, inventories, case studies, and observations; sociometrics relevant to counseling and appraisal in schools. Consideration of strategies for assessing students with special needs, with attention to the cultural, linguistic, and societal factors involved in their identification, placement, and academic and

behavioral performance. Required projects in school or community settings.

Prerequisite: identified in degree requirements in the M.S. in Education program in School Counseling.

731.3T Education and Ethics

30 hours plus conference; 3 credits

Ethical problems in locating and justifying educational values; in determining the nature, source, and limits of the school's moral authority; and in influencing the child's sense of values, moral outlook, and ways of judging. Exploration of the ethics of teaching. Use of literature, drama, the visual arts, and theories of ethics and moral development to explore the ethics of teaching, character education, and moral education.

732.1T Contemporary Thought and Education

30 hours plus independent work; 3 credits

Original source materials are used to develop a philosophical perspective characteristic of the twentieth-century mind that bears on educational theory and practice.

Prerequisite: a master's degree or matriculation in a teacher education program; and Education 711T or 731T or 741X or the equivalent.

732.12T Practicum in Meeting the Literacy Needs of Students in Middle Schools

30 hours lecture, 30 hours laboratory; 3 credits

Development, application, and implementation of literacy strategies based on theories and research findings. Supervised practice with selected learners in grades 5 through 8. (Not open to students who have completed Education 712.12T or 713.12T.)

Prerequisites: Education 726.12T and 727.12T.

Corequisite: Education 719.12T.

733X Theory and Practice of Counseling

30 hours plus independent work and conference,
30 hours laboratory; 4 credits

Counseling practice and its theoretical research bases. Counseling functions and practices of the school psychologist. The laboratory consists of counseling experiences, including role playing, utilization of tape recordings and other practical materials.

Prerequisite: matriculation in and completion of 15 credits in the school psychologist program and permission of the program head.

733.12T Practicum in Meeting the Literacy Needs of Students in High School

30 hours lecture, 30 hours laboratory; 3 credits

Continuation of Education 732.12T with students in grades 9 through 12. (Not open to students who have completed Education 712.12T or 713.12T.)

Prerequisites: Education 732.12T and 719.12T.

Corequisite: Education 720.12T.

734T Sexism in American Education

45 hours; 3 credits

Nonsexist child rearing; sex stereotyping and personal development; child-rearing practices; societal attitudes toward men and women; the role of the media and linguistic sexism. The schools and sex roles, "Hidden Curriculum"; courses, books, materials and toys, resources for nonsexist education. Nonsexist career preparation and educational leadership; creating options, nonsexist counseling; role of community centers and women's groups; anatomy of change; legislation; feminist studies for men and women.

742X Perspectives on Education: Teaching Children and Adolescents in Cultural Context

45 hours, 20 hours supervised field experience; 3 credits

An introduction to the philosophy, psychology, sociology, culture, and history of educating all children and adolescents. Development of children and adolescents in different cultures within American society in relation to existing value systems, with emphasis on the manner in which biological and psychological factors are interpreted in accordance with prevailing values. Focus on relationship between theory and practice. Opportunities through class discussion, portfolio preparation, and field experience for reflection on oneself as teacher; interactions between school and community, teachers' roles, and issues of diversity and social justice.

742.IX Multicultural Education

45 hours; 3 credits

Examines diverse cultures, in the broadest sense (race, class, ethnicity, language, and gender), that constitute American society. Similarities and differences of various cultures in the context of education. Examination of curriculum bulletins, textbooks, and journals. Development of materials for use in classrooms.

742.2T Diversity and the Inclusive Classroom

45 hours; 3 credits

Examines the relationships between social identities and curriculum, teaching and the institution of school. Focuses on developing inclusive classrooms and addressing the needs of diverse student populations. Examination of curriculum, textbooks, and journals. Consideration of recent work on identity formation, multicultural education, anti-bias education, and institutional processes of labeling students. Development of materials and teaching methods for the inclusive classroom.

744T Moral Development and Moral Education

45 hours; 3 credits

Cognitive development and moral development; perspective taking, social development and delinquency; moral development and guidance; presocial behavior; altruism, caring, kindness; fostering moral growth in classrooms: science, literature, social studies; children's rights and moral education.

745.1T Diagnosis and Correction of Reading Difficulties

45 hours; 3 credits

Symptoms and causes of reading disabilities. Use and interpretation of achievement tests, diagnostic instruments, and alternative assessments. Materials and methods of remedial instruction. Preparation of teacher-made reading materials. Work with children and case studies.

Prerequisite or corequisite: employment or certification as a teacher and Education 746T or its equivalent.

746T Principles and Emerging Practices in Reading Instruction in the Elementary School

30 hours plus independent reading and fieldwork; 3 credits

Study and assessment of current research and experimentation in reading instruction. New developments in principles of learning, compilation and use of materials, group and individual work, the use of programmed materials and self-instructional devices, and techniques of teaching and evaluation. Appraisal of representative experimental programs.

Prerequisite: Education 763.4T or the equivalent; and two years of teaching and permission of the reading program head.

750.1T Students with Special Needs

30 hours plus conference; 3 credits

Investigation of the developmental nature, causes, and characteristics of young children and students with special needs. Implications for classroom teachers and other professionals in areas of interpersonal interactions, interagency collaboration, and instruction. Focus on historical, social, and legal foundations of special education and the politics of special education. Theories of learning and development. Influence of gender, class, language, sexuality, and race/ethnicity on the construction of disability, as interpreted within and across cultures. Field experiences in schools and a variety of community settings.

750.2T The Family and Community of Students with Special Needs

30 hours plus conference; 3 credits

Analysis of the issues for the family and the child with special needs within diverse family systems. Teacher-parent, parent-child, sibling-child relations, collaboration, and community resources for young children and school-aged students. Focus on life cycle from birth through adulthood. Emphasis on urban, linguistic, and cultural perspectives, resource access, and development of parent-community partnerships. Field experiences in school settings and a variety of community settings.

750.3T Learning Environments for Students with Special Needs

45 hours; 3 credits

Approaches to the design, management, and evaluation of optimal learning environments. Review of methods, including

behavior management, crisis intervention, group process, positive social interaction skills, and peer mediation. Case studies in diverse settings as a basis for analysis, discussion, and interpretation of behavior within and across cultures. Development of a reflective approach to teaching and problem solving.

750.4T Curriculum Modifications for Teaching Students with Special Needs

45 hours; 3 credits

Adaptation of general education curriculum for teaching students with special needs, including English language learners. Principles, rationale, and research-validated methods of instructing and assessing special populations in a variety of settings. Inquiry processes across all content areas, including literacy, mathematics, social studies, science, and the expressive arts. Use of technology for instruction. Focus on the New York State Learning Standards and educational experiences of children and youth from diverse cultural and linguistic backgrounds.

750.5T Educational Assessment of Young Children and Students with Special Needs

30 hours lecture, 30 hours laboratory; 3 credits

Critical review and use of formal and informal strategies for the assessment and evaluation of the cognitive, behavioral, social, and affective characteristics of young children and school-aged students with special needs. Attention will be given to understanding cultural, linguistic, and societal factors involved in identification, placement and the academic and behavioral performance of students. Focus on curriculum-based assessment and collaboration with other professionals and parents. Field experiences in a variety of school and community settings.

750.6T Teaching Literacy to Students with Special Needs

30 hours lecture, 30 hours field experience; 3 credits

Methods of teaching literacy to students with special needs, including those who are English language learners. Literacy strategies and programs for reading and related communication skills, and use of literature in settings for students with special needs. Field experiences. Role of family, community, and culture in literacy development. Focus on instructional technology, current research validated strategies, and New York State Learning Standards.

750.7T Research Methods in Special Education

30 hours lecture, 30 hours laboratory; 3 credits

Concepts in educational research and the critical analysis of research pertinent to teaching the student with special needs. Development of research skills and the role of teacher as researcher culminating in the formulation of individual research projects related to teaching students with special needs.

750.8T Seminar and Student Teaching: Students with Special Needs

150 hours; 3 credits

Supervised instruction in teaching young children and school-aged children with special needs. Supervision provided by college faculty in the student's work setting. Discussion with school-based supervisors. Projects related to school and supervisory experiences; a minimum of four supervisory sessions per semester.

750.9T Seminar in Teaching Students Experiencing Emotional Conflict

30 hours plus conference; 3 credits

Analysis of theory and research-validated practices related to the teaching of students experiencing emotional conflict. Discussion of daily classroom and instructional management and implementation of instructional strategies, including literacy across the curriculum with an emphasis on verbal and visual literacies. Exploration of teacher/student interactions and teacher reflective practice.

751.1T Atypical Development in Infants, Toddlers, and Young Children

30 hours plus conference; 3 credits

Developmental processes, early identification and intervention, appropriate curriculum in home, child care, preschool, and early childhood settings. Implications for teacher-parent relations, and development of enriched and nurturing environments for infants, toddlers, and young children with atypical development. Focus on family, interagency, and professional collaboration across cultural, linguistic, and ethnic contexts. Field experiences.

751.2T Adolescence and Emotional Conflict

45 hours; 3 credits

Characteristics, needs, intervention techniques, and curricula. Educational settings, structure of middle school and high school programs for the adolescent experiencing emotional conflict, including the expressive arts and instruction to meet New York State Learning Standards. Preparation for life skills and transition planning.

751.3T An Introduction to Autism Spectrum Disorders

30 hours plus conference; 3 credits

Contemporary issues in autism spectrum disorders from an interdisciplinary and cross-paradigm perspective. Collaborative models for assessment and intervention within the fields of speech-language pathology, special education, and school psychology. Emphasis on partnerships with families. This course is the same as Speech 717X.

Prerequisite: any undergraduate or graduate course in either child development, language acquisition, or speech and language disorders, or permission of the deputy chairperson or program head.

756.1T Sources of Information

45 hours; 3 credits

Introduction to theories of information, appraisal, and diagnosis and to appraisal and measurement techniques. Role and function of guidance counseling. Introduction to group dynamics. Theoretical basis for strategies of planned intervention.

Prerequisite: matriculation in the guidance and counseling program and permission of the program head.

Corequisite: Education 724.1T and 756.2T.

756.3T Cases in Planned Intervention

30 hours lecture, 30 hours laboratory; 3 credits

Selected cases. Helping students formulate and follow through on planned intervention strategies. Students are encouraged to analyze their work situations in terms of strengths and weaknesses and to develop strategies for improving the total program as well as their own functioning.

Prerequisite: matriculation in the guidance and counseling program and Education 724.2T and permission of the program head.

Corequisite: Education 708.1T.

756.11T Working with Families in Schools

45 hours; 3 credits

Discussion of changing nature of families, family systems dynamics and development, and culturally and economically diverse families in urban school context. Working in schools with families, parents, and guardians in the educational and emotional lives of children through family assessments, brief short-term family counseling, parenting workshops, and educational workshops. Consideration of issues and dynamics for the family and child with special needs. Experiential component.

Prerequisite: identified in degree requirements in the M.S. in Education Program in School Counseling.

756.12T Contemplative Urban School Counseling

45 hours; 3 credits

Contemplative practices as applied to counseling in urban schools. Promotion of urban schools as caring, healing, growth-enhancing communities. Discussion of recent research and practices in counselor self-awareness, mindful classrooms and schools, counseling and healing, engaged service, and conflict resolution. Consideration of gender, culture, religion, and class with respect to urban school issues.

Prerequisite: identified in degree requirements in the M.S. in Education program in School Counseling.

757.48T Bilingual and Multicultural Education

45 hours; 3 credits

Examination of theories of bilingual education and the development of models of bilingual education within an international context. Multicultural perspectives in education with specific focus on the similarities and differences found in diverse cultures. Focus on developmental and educational needs of all bilingual English language learners, including bilingual English language learners with special needs.

757.49 Seminar in Bilingual School Counseling

45 hours; 3 credits

Examination of issues and techniques relevant to providing counseling services to culturally and linguistically diverse (CLD) individuals. Content and activities of the course are organized to meet the needs of practicing guidance workers. Theory and experiential activities.

Prerequisite: identified in degree requirements in the M.S. in Education program in School Counseling.

758.48T Methods and Research in Teaching English Language Arts to Bilingual English Language Learners

30 hours plus conference, 25 hours supervised field experience; 3 credits

Introduction to methods and research in the teaching of English language arts, including literacy, to all bilingual English language learners, using the native language and English. Review of theoretical formulations that have shaped contemporary understandings of English language learning among linguistic minority students.

760.47T Language Arts, Literacy, and Social Studies in Bilingual Classrooms

30 hours plus conference, 25 hours supervised field experience; 3 credits

Examination of various methods used for literacy development in the native language of bilingual English language learners. Approaches to integrating the teaching of language arts and social studies for bilingual English language learners and English language learners with special needs employing the use of English and the native language.

762.49 Student Teaching: Teaching English as a Second Language in K-12

30 hours seminar, 120 hours student teaching; 3 credits

Pedagogical approaches and ideas underlying second language acquisition and teaching applied to the classroom.

Approaches to integrating language and content instruction for all English language learners including those with special developmental and educational needs. Seminar and college supervised student teaching K-12.

Prerequisite: Education 760.49T and Education 761.49T, and approval of the program adviser.

763T Teaching Literature for Children and Adolescents

30 hours plus independent work and conference; 3 credits

Planning balanced programs of reading, and school and library services. New media equipment and procedures in the use of books to study people and culture, places, science, historical heritage, biography. Interpretation of literature through art media.

Prerequisite: a course in methods and student teaching in early childhood education or elementary education or a course in methods and student teaching in English in secondary education; and a graduate workshop.

763.1T Workshop in Early Childhood Education

45 hours; 3 credits

Study of solution of problems concerning the organization of subject matter. Techniques of instruction, classroom management, pupil adjustment, school-community relationships. Attention is given to the particular needs and interests of students, with provision for individual and group study. (Not open to students who are enrolled in or have completed any of the following: Education 663.2T, 663.3T, 663.4T, 663.22T, 763.2T, 763.3T, 763.4T, 763.22T.)

Corequisite: Education 764.1T or employment as a teacher in a public or approved private school.

763.4T Workshop in the Language Arts

45 hours; 3 credits

Problems in teaching language arts: reading and oral and written communication. Attention is given to the particular needs and interests of students, with provision for individual and group study. (Not open to students who are enrolled in or have completed any of the following: Education 663.1T, 663.2T, 663.3T, 663.21T, 663.22T, 763.1T, 763.2T, 763.3T, 763.21T, 763.22T.)

Corequisite: Education 764.1T or 764.2T or 764.5T or employment as a teacher in a public or approved private school.

Adolescence education and special subjects

Courses 763.01T–763.17T are intended for students pursuing programs in adolescence education or special subjects.

Students take the course appropriate to their area.

- .01 English
- .02 Social studies
- .03 Mathematics
- .04 Science
- .11 Modern languages
- .13 Physical education
- .16 Health science
- .17 Art

763.01T Seminar I in Pedagogy and Curriculum: English

30 hours; 2 credits

Seminar concerning problems and issues in the organization of subject matter. Introduction to methods of instruction, curriculum development and assessment, classroom management, and developing school-community relationships. Focus on self-reflective teaching styles and assessment procedures to address the learning needs of a diverse student population, students with special needs, and English language learners. Preparation in literacy and language acquisition. Attention given to particular needs and interests of students and methods of integrating technology into the classroom. Role of materials and resources applied to teaching English at grade levels appropriate for state certification requirements. Not open to students who are enrolled in or have completed Education 763.32T, 763.33T, 763.34T, 763.35T, 763.36T, 763.37T, 763.39T.

Corequisite: Education 764.5T

763.02T Seminar I in Pedagogy and Curriculum: Social Studies

30 hours; 2 credits

Seminar concerning problems and issues in the organization of subject matter. Introduction to methods of instruction, curriculum development and assessment, classroom management, and developing school-community relationships. Focus on self-reflective teaching styles and assessment procedures to address the learning needs of a diverse student population, students with special needs, and English language learners. Preparation in literacy and language acquisition. Attention given to particular needs and interests of students and methods of integrating technology into the classroom. Role of materials and resources applied to teaching social studies at grade levels appropriate for state certification requirements. Not open to students who are enrolled in or have completed Education 763.32T, 763.33T, 763.34T, 763.35T, 763.36T, 763.37T, 763.39T.

Corequisite: Education 764.5T.

763.03T Seminar I in Pedagogy and Curriculum: Mathematics

30 hours; 2 credits

Seminar concerning problems and issues in the organization of subject matter. Introduction to methods of instruction, curriculum development and assessment, classroom management, and developing school-community relationships. Focus on self-reflective teaching styles and assessment procedures to address the learning needs of a diverse student population, students with special needs, and English language learners. Preparation in literacy and language acquisition. Attention given to particular needs and interests of students and methods of integrating technology into the classroom. Role of materials and resources applied to teaching mathematics at grade levels appropriate for state

certification requirements. Not open to students who are enrolled in or have completed Education 763.32T, 763.33T, 763.34T, 763.35T, 763.36T, 763.37T, 763.39T.

Corequisite: Education 764.5T.

763.04T Seminar I in Pedagogy and Curriculum: Science

30 hours; 2 credits

Seminar concerning problems and issues in the organization of subject matter. Introduction to methods of instruction, curriculum development and assessment, classroom management, and developing school-community relationships. Focus on self-reflective teaching styles and assessment procedures to address the learning needs of a diverse student population, students with special needs, and English language learners. Preparation in literacy and language acquisition. Attention given to particular needs and interests of students and methods of integrating technology into the classroom. Role of materials and resources applied to teaching science at grade levels appropriate for state certification requirements. Not open to students who are enrolled in or have completed Education 763.32T, 763.33T, 763.34T, 763.35T, 763.36T, 763.37T, 763.39T.

Corequisite: Education 764.5T.

763.11T Seminar I in Pedagogy and Curriculum: Modern Languages

30 hours; 2 credits

Seminar concerning problems and issues in the organization of subject matter. Introduction to methods of instruction, curriculum development and assessment, classroom management, and developing school-community relationships. Focus on self-reflective teaching styles and assessment procedures to address the learning needs of a diverse student population, students with special needs, and English language learners. Preparation in literacy and language acquisition. Attention given to particular needs and interests of students and methods of integrating technology into the classroom. Role of materials and resources applied to teaching modern languages at grade levels appropriate for state certification requirements. Not open to students who are enrolled in or have completed Education 763.32T, 763.33T, 763.34T, 763.35T, 763.36T, 763.37T, 763.39T.

Corequisite: Education 764.5T.

763.13T Seminar I in Pedagogy and Curriculum: Physical Education

30 hours; 2 credits

Seminar concerning problems and issues in the organization of subject matter. Introduction to methods of instruction, curriculum development and assessment, classroom management, and developing school-community relationships. Focus on self-reflective teaching styles and assessment procedures to address the learning needs of a diverse student population, students with special needs, and English language learners. Preparation in literacy and language

acquisition. Attention given to particular needs and interests of students and methods of integrating technology into the classroom. Role of materials and resources applied to teaching physical education at grade levels appropriate for state certification requirements. Not open to students who are enrolled in or have completed Education 763.32T, 763.33T, 763.34T, 763.35T, 763.36T, 763.37T, 763.39T.

Corequisite: Education 764.5T.

763.17T Seminar I in Pedagogy and Curriculum: Art

30 hours; 2 credits

Seminar concerning problems and issues in the organization of subject matter. Introduction to methods of instruction, curriculum development and assessment, classroom management, and developing school-community relationships. Focus on self-reflective teaching styles and assessment procedures to address the learning needs of a diverse student population, students with special needs, and English language learners. Preparation in literacy and language acquisition. Attention given to particular needs and interests of students and methods of integrating technology into the classroom. Role of materials and resources applied to teaching art at grade levels appropriate for state certification requirements. Not open to students who are enrolled in or have completed Education 763.32T, 763.33T, 763.34T, 763.35T, 763.36T, 763.37T, 763.39T.

Corequisite: Education 764.5T.

763.23T Childhood Education: Student Teaching in Grades I–6

300 hours or 40 days supervised teaching practice; 3 credits

Supervised fieldwork in teaching childhood education; problems and issues in the organization of all aspects of childhood education curriculum; emphasis on the development of an interdisciplinary approach to teaching. Focus on self-reflective teaching and assessment; techniques of instruction, integration of instructional technology, classroom management, skills in fostering effective relationships and interactions to support all students, development of collaborative school-community relationships. Readings and discussions on significant education issues, including preventing child abduction, substance abuse, safety education, and child abuse awareness. Attention is given to the particular needs and interests of students, including English language learners and students with special needs. (Not open to students who are enrolled in or have completed any of the following: Education 663.1T, 663.3T, 663.4T, 663.21T, 663.22T, 763.1T, 763.3T, 763.4T, 763.21T, 763.22T.)

Prerequisites: Education 718.22, 794X, 763.25, 763.26.

763.25T Teaching Mathematics in Childhood Education

30 hours plus conference; 30 hours field experience; 3 credits

Problems and issues in the organization and teaching of subject matter. Techniques of instruction. Introduction to

approaches for teaching mathematics to all children from preschool through grade 6, including English language learners and students with special needs. Overview of children's development of number and of geometric and spatial sense; informal mathematical knowledge of young children.

National, state, and local standards and curriculum guidelines. Teaching mathematical concepts, computational skills, and higher order thinking processes; integration of mathematics with literacy and other subject areas; formal and informal assessment. Role of technology in teaching and learning mathematics.

Prerequisite: Mathematics 1.95 or a mathematics course approved by the program adviser.

763.26T Teaching and Learning Science in Childhood Education

30 hours; 30 hours field experience; 3 credits

Introduction to research-validated models of teaching science to all students, including students with special needs and English language learners; classroom management; school-community relationships; individual and collaborative inquiry; reflective practice; analysis of national, state and local learning standards in science and technology; integrating technology into the classroom; developing, implementing and evaluating science curriculum in urban classrooms.

763.32T–.39T Workshop in Secondary Education

45 hours; 3 credits

Workshop concerning problems and issues in the organization of subject matter. Techniques of instruction, classroom management, pupil adjustment, school-community relationships. Attention is given to the particular needs and interests of students, with provision for individual and group study. (Not open to students who are enrolled in or have completed any of the following: Education 663.1T, 663.2T, 663.4T, 663.21T, 663.22T, 763.1T, 763.2T, 763.4T, 763.21T, 763.22T.)

Corequisite: Education 764.5T or employment as a teacher in a public or approved private school.

763.32T Integrated/interdisciplinary curriculum

763.34T Social studies

763.35T Mathematics

763.36T Science

763.38T Music

763.39T Art

763.52T–.58T Seminar in Special Education

45 hours; 3 credits

Problems and issues in the organization content, techniques of instruction to meet the New York State Learning Standards, assessment, classroom management, and school-community relations. Attention is given to the particular needs and interests of young children and school-aged students with special needs, with provision for individual and group study. 763.52T Students with Learning Disabilities

763.53T Students Experiencing Emotional Conflict

- 763.54T Developmental Disabilities
- 763.55T Classroom Organization and Management
- 763.56T Literacy and Communication
- 763.57T Mathematics and Students with Special Needs
- 763.58T Learning Process and the Arts

764.1T Seminar and Student Teaching Practicum I in Early Childhood Education

15 hours seminar; at least 150 hours student teaching/semester; 3 credits

Advanced course in student teaching. Opportunity for extensive participation in teaching and school activities. Hours to be arranged. Students who hold an Initial Certificate in Childhood Education or in Special Subjects must complete at least 150 hours of student teaching in Education 764.1T in order to qualify for the Professional Certificate in Early Childhood Education. Students who do not hold an Initial Certificate in Early Childhood Education or Childhood Education or in Special Subjects must complete at least 150 hours of student teaching in Education 764.1T and an additional 150 hours of student teaching in Education 764.11T in two of the following age groups: preschool, kindergarten, or grades one and two. All students must have experience with all three age groups through the combined field experience and student teaching practica.

Prerequisites: Education 705.13T or 706.11T; 705.11 or 708.11T or 725.11T or 751.1T; 720.11T or 727.11T; 728.11T; 710.11T; 709.11T or 709.13 or 709.15; 710.13 and a cumulative graduate education index of 3.0 or higher.

764.2T Childhood Education: Student Teaching Practicum

30 hours seminar; 150 hours or 20 days of supervised student teaching in Childhood Education grades; 3 credits

Supervised field work in teaching all aspects of the childhood education curriculum. Emphasis on the development of an interdisciplinary approach to teaching children from diverse backgrounds, those who are English language learners, and those with special needs. Integration of instructional technology, interdisciplinary curriculum and topics required by New York State standards in Professional certification.

Prerequisite: Initial Certification in Early Childhood Education or in a Special Subject.

764.5T Adolescence Education and Special Subjects: Student Teaching Practicum I

150 hours or twenty days of weekly supervised student teaching; 30 hours supervised field observation; 3 credits

Course in student practice teaching. Opportunity for extensive and intensive participation in teaching and school activities. Hours to be arranged. Observing, developing, and studying curriculum in light of teaching experiences and observations.

Prerequisite: Education 742X, 792.IX, and permission of the head of Adolescence Education and Special Subjects and the chairperson of the major department.

Corequisite: Education 763.01T or 763.02T or 763.03T or 763.04T or 763.11T or 763.13T or 763.16T, or 763.17T.

764.11T Seminar and Student Teaching Practicum II in Early Childhood Education

15 hours seminar; at least 150 hours student teaching/semester; 3 credits

Pedagogy and curriculum development in early childhood settings, birth through grade 2. Integrated curriculum in early childhood settings, with a focus on culturally and linguistically diverse urban settings. Teachers as researchers; development of a reflective approach to teaching and assessing a diverse child population, including children with special needs and English language learners. Families and communities in early childhood education; interagency collaboration. Students who have completed 150 hours of student teaching in Education 764.1T in preschool, kindergarten, or grades one and two, must complete the student teaching requirements for this course in a second age level.

Prerequisite: 764.1T and a cumulative graduate education academic index of 3.0 or higher.

764.51T Adolescence Education and Special Subjects: Student Teaching Practicum II

150 hours or 20 days of weekly supervised teaching, 30 hours of supervised field experience; 3 credits

Advanced course in student practice teaching. Opportunity for more extensive and intensive participation in teaching and school activities. Hours to be arranged. Daily supervised student teaching in grades and subject areas appropriate for New York State certification requirements. Observing, developing, and studying curriculum in light of teaching experiences and observations.

Prerequisite: Education 742X, Education 792.IX and permission of the head of Adolescence Education and Special Subjects and the chairperson of the major department.

Prerequisite or corequisite: Education 763.01 or 763.02 or 763.03 or 763.04 or 763.11 or 763.13 or 763.16 or 763.17, and Education 764.5T.

Corequisite: Education 723.01 or 723.02 or 723.03 or 723.04 or 723.11 or 723.13 or 723.16 or 723.17.

765.1X Issues of Teaching in Middle Childhood

45 hours; 3 credits

Issues in middle childhood teaching. Education for democratic citizenship and intercultural understanding; development and learning of preadolescents and young adolescents; providing for individual differences and special needs; organization of the classroom, school, and curriculum including team teaching, interdisciplinary and integrated curricula; articulation among elementary, middle, and secondary schools; guidance, home-school relations, testing, and assessment.

Prerequisite: permission of a program adviser for Middle Childhood Education.

766.2X Assessment of Second Language

30 hours plus conference; 3 credits

Assessment of English language learners, including those with special needs. Emphasis on qualitative and quantitative procedures. Examination of major language instruments for all ages and proficiency levels, development of self-made language tests and informal assessment techniques, and practical reflection on linking language assessment to instruction. Consideration of linguistic, cultural, and socioeconomic background in modifying and adapting testing procedures. Applications to educational and community settings. This course is the same as English 779.IX and Speech 735.IX.

Prerequisite: either Education 760.49T and 761.49T or a course in normal development of language or permission of the deputy chairperson.

770X School-Community Relations

45 hours; 3 credits

Role of the educational leader in fostering effective and responsive relations between school and community.

Practical problems are drawn from the field for analysis and study. This course satisfies the requirement for the human relations course that all New York City teachers must take and is approved as such by the New York City Department of Education.

Prerequisite: permission of the head of the educational leadership program.

771X Supervision of Instruction

45 hours; 3 credits

Theory and practice of supervision as an aspect of administration.

Prerequisite: permission of the head of the educational leadership program.

772.3X School Instruction and Curriculum Development, Innovation, and Evaluation

45 hours; 3 credits

Principles underlying present instructional and curriculum practice and ways of changing instruction and the curriculum. Design and evaluation of instructional and curriculum research.

Prerequisite: permission of the head of the educational leadership program.

772.4X Workshop in School Curriculum Development, Experimentation, and Evaluation

45 hours; 3 credits

Investigation of newer practices and experimentation in selected areas of school curriculum. Students are expected to plan and/or implement a practical project applicable to their school situation.

Prerequisite: Education 772.3X and permission of the head of the educational administration and supervision program.

773X Cognitive Development and Curriculum in Schools

30 hours plus independent work, conference, classroom observation, and participation; 3 credits

Factors involved in curriculum development and practices. Evaluation in light of current research related to theories of learning and human development.

Prerequisite: matriculation in the school psychologist program and permission of the program head.

Prerequisite or corequisite: Education 721.1X and 726.4X.

774.1T Improvement of Teaching: Behavior Modification and Whole-Class Teaching

45 hours; 3 credits

Teaching models and strategies to extend the in-service teacher's conceptual scheme of teaching. Self-analysis systems are explored and applied by means of feedback mechanisms. Practice in behavior modification and whole-class teaching skills.

Prerequisite: employment as a teacher or supervisor in a public or approved private school.

774.2T Improvement of Teaching: Open Classroom, Individual, and Small-Group Teaching

45 hours; 3 credits

Continuation of Education 774.1T. Practice with models and strategies applicable to open classroom, individualized, and small-group teaching.

Prerequisite: employment as a teacher or supervisor in a public or approved private school.

775.1X Administration: Theory and Practice I

45 hours; 3 credits

Theories, concepts, and processes in administration. Recent changes and current practices.

Prerequisite: matriculation in the educational administration and supervision program and permission of the program head.

775.2X Administration: Theory and Practice II

45 hours; 3 credits

Theory and practice of the leadership role of administrators in school organizations. Nature of leadership and its implications for administrator behavior. Techniques for successful exercise of leadership with emphasis on urban schools. Practical problems from the field are studied and analyzed.

Prerequisite: Education 775.1X and permission of the head of the educational administration and supervision program.

775.3X Personnel Functions in Educational Leadership

45 hours; 3 credits

Personnel functions and their impact on the effectiveness of the organization in relation to goals.

Prerequisite: permission of the head of the educational leadership program.

775.4X Management and Finance Functions in Educational Leadership

45 hours; 3 credits

Exercise of leadership in the management and finance functions of public school organizations.

Prerequisite: permission of the head of the educational leadership program.

775.01T-.06T Colloquium in Educational Leadership

30 hours lecture, 100 hours fieldwork; 2 credits

Selected aspects of educational leadership through lectures, readings, case analyses, and directed on-site observations. Students devote 100 hours to supervised field work during the term. The content of the colloquium varies from term to term, increasing each term in focus and depth of analysis.

Prerequisite: permission of the head of the educational leadership program.

Corequisite: Education 775.01T must be taken with Education 772.3X. Education 775.02T must be taken with Education 775.4X. Education 775.03T must be taken with Education 771.1X. Education 775.04T must be taken with Education 775.3X. Education 775.05T must be taken with Education 777.1X. Education 775.06T must be taken with Education 770X.

777.1X Education Law and Ethics

45 hours; 3 credits

School law and ethics as they affect the policies, organization, and administration of public and private schools.

Prerequisite: permission of the head of the educational leadership program.

777.2X Collective Negotiations in Public Education

45 hours; 3 credits

Meaning and impact of collective negotiations on public education.

Prerequisite: matriculation in the educational administration and supervision program or permission of the program head.

778.1T Internship in Educational Administration and Supervision I

90 hours; 3 credits

Administrative-supervisory internship in an educational organization under the supervision of a practicing school administrator and members of the college faculty in

educational administration and supervision. Application of theories and concepts to practical situations that confront the administrative and supervisory practitioner.

Prerequisite: Education 771X, 772.3X, 775.IX, 775.2X; and permission of the head of the educational administration and supervision program.

Corequisite: Education 710T.

784.1X Introduction to Technology in Childhood Education

30 hours; 30 hours laboratory; 3 credits

Introduction to educational uses of technology. Definition and development of computer literacy. Evaluation and use of software in reading, writing, science, social studies, and mathematics. Media, calculators, and other instructional tools. The internet as a resource for teaching and learning. Project-based instruction. Roles of technology in classrooms and in relation to school curricula, and the consequent new roles for teachers. Survey of relevant education research.

Prerequisite: 12 credits in education and permission of the program head of Childhood Education: Mathematics.

784.2X Integrating Technology and Media in Adolescence Education

30 hours lecture, 30 hours laboratory; 3 credits

Examination of the instructional applications of technology and media in Adolescence Education; consequent new roles for teachers and changes in classroom organization; computer literacy; analysis and evaluation of selected technologies and media designed for teaching various subject areas in grades 7–12. (Not open to students who have completed Education 784.1X.)

788.1T, 788.2T Seminar in Guidance Practice I, II

45 hours each term; 3 credits each term

An independent project course on problems in selected areas of guidance practice. Content and activities of the course are organized to meet the needs of practicing guidance workers. Independent and group study.

Prerequisite: matriculation in the guidance and counseling program and permission of the program head.

789.10T Advanced Methods for Teaching Childhood Mathematics

45 hours plus conference; 3 credits.

Advanced study of learning and teaching mathematics in grades 1–6 for all children, including English language learners and children with special needs. Problem solving and inquiry as contexts for development of mathematical understanding and skills. National, state, and local standards and curriculum guidelines. Classroom learning environments, mathematical discourse. Models of teaching and adaptations for special student populations. Formal and informal assessments. Role of technology in teaching and learning mathematics.

Prerequisite: A course in teaching childhood mathematics, and 6 credits in mathematics.

790.1T, 790.2T Honors Seminar in Education I, II

30 hours each term; 2 credits each term

Individual study and research supervised by a faculty member. A written report is required.

Prerequisite: 12 credits in graduate courses including at least two education courses; and evidence of superior scholarship, high professional promise, and capacity for self-directed study; and permission of the deputy for graduate studies.

790.11T, 790.12T Independent Study in Guidance

Hours to be arranged; 3 credits each term

Independent study and research supervised by a faculty member. Written report.

Prerequisite: matriculation in the guidance and counseling program and permission of the program head.

790.21X Independent Study in School Psychology

Hours to be arranged; 3 credits

Independent study and research in a selected area of school psychology supervised by a faculty member. Research paper.

Prerequisite: matriculation in the School Psychologist Program and permission of the program head.

791.10T Counseling in Community Settings

30 hours plus conference; 3 credits

Critical and historical perspectives on community counseling. General principles of community intervention, consultation, education, and outreach. Current methods of practice, including assessment and diagnosis in social context. Role of school counselor in making referrals. Survey of community agencies and organizations. Required projects in school or community setting.

Prerequisite: identified in requirements in the Advanced Certificate program in School Counseling.

791.11 Advanced Internship I

150 hours; 3 credits

First of two supervised internships in community counseling. Direct counseling and advocacy with clients and indirect collateral service, including consulting, coordinating, and collaboration, with on-site supervision at an approved internship site. Weekly group supervision devoted to evaluation of students' practice in community settings, using self-report, journals, videotaped counseling sessions, observations, and selected advanced topics related to community counseling. Special section of course for students pursuing specialization in bilingual counseling.

Prerequisite: identified in requirements in the Advanced Certificate program in School Counseling.

791.12T Urban Trauma: Counseling Issues and Strategies.

45 hours; 3 credits

General nature of trauma and posttraumatic stress disorder. Topics include risk and resiliency factors for youth and

community, trauma and schools, crisis intervention, diagnosis, and posttrauma individual and group counseling.

Prerequisite: identified in requirements in the Advanced Certificate program in School Counseling.

791.13T Advanced Internship II

150 hours; 3 credits

Second of two supervised internships in community counseling. Direct counseling and advocacy with clients and indirect collateral service, including consulting, coordinating, and collaboration, with on-site supervision at an approved internship site. Weekly group supervision devoted to evaluation of students' practice in community settings, using self-report, journals, videotaped counseling sessions, observations, and selected advanced topics related to community counseling.

Prerequisite: identified in requirements in the Advanced Certificate program in School Counseling.

792.1X Analysis of Classroom Interaction and Curriculum

45 hours seminar; 20 hours supervised field work; 3 credits

Improving teaching methods through techniques of self-analysis and analysis of classroom interactions. Analysis of the instructional settings and instructional strategies with focus on students with special needs and English language learners. Analysis of learning processes and modes of communication in the classroom. Examination of the specialized discourses of the subject disciplines in adolescent, middle, and childhood curricula. Analysis of uses of technology in the classroom.

Prerequisite or corequisite: Education 742X.

792.2X Teaching Writing Across the Curriculum

30 hours plus conference; 3 credits

Examination of the writing process as it may be used in subject areas. Study and application of recent research to classroom practice. Analysis of the relationship between writing, critical thinking, and learning and teaching in the subject area.

792.3X Teaching Lexicography and Vocabulary across the Curriculum

30 hours lecture, 30 hours laboratory; 3 credits

Methods and techniques of vocabulary improvement in the classroom setting. Application to classroom practice of the study of the history of the English language, the science of lexicography, and principles of etymology and semantic change. Analysis of selected words and word roots from subject areas taught throughout secondary schools with special emphasis on vocabulary development, the nature of language, and the relationships among languages.

792.4X Advanced Theories and Practice of Composition

30 hours plus conference; 3 credits

Theory and practice of teaching writing at the secondary level (grades 7–12), and such related issues as revision, evaluation, and teaching writing to English language learners. (This course is the same as English 779X.)

794X Literacy: Issues and Analysis

30 hours; 30 hours field experience; 3 credits

Review and analysis of research in the teaching and learning of literacy. Application of reading and writing, learning theories and research findings in teaching children of varying abilities and in interdisciplinary language arts curricula in childhood education. Pedagogy and instructional practices, focus on English language learners and students with special needs; literacy development and learning process; formal and informal assessment.

Prerequisite: permission of the program head.

796X Theater in the Classroom

30 hours plus field experience; 3 credits

Theater work in classroom settings. Existing models of theater arts in education. Using theater, improvisation and creative drama to explore specialized subject areas and pedagogy. Practical studio work. The classroom as theater. Collaboration of education and theater students on theater in education projects, including workshops in focus schools. Mainstage and outside productions. Visits to area public schools. Creation of age-appropriate theater study guides. (This course is the same as Theater 741X.)

Prerequisite: permission of the instructor and the head of Adolescence Education and Special Subjects.

798X Introduction to Second Language Acquisition and English Language Learning

30 hours plus conference; 3 credits

Survey of second language acquisition theory and research as it relates to teaching English as a second language. The influence of speech and language disorders. Application of recent research findings in child first and second language acquisition, language typology, universal grammar and parameters, various models of second language acquisition, instructed second language learning, the critical period hypothesis, the social context, and other influences on second language acquisition. Data collection and analysis. Applications to educational and community settings. This course is the same as English 779.2X and Speech 735X.

Prerequisite: either English 702.6X or a course in normal language acquisition or permission of the deputy chairperson.

798.49T Seminar: Independent Research Project in Second Language Learning

45 hours; 3 credits

Principles and methods in research in TESOL with emphasis on research in English language learning classroom settings.

Development of observation and recording methodologies emphasizing the role of teacher as researcher. Scope and variety of educational research; principles and characteristics of qualitative and quantitative research; structure and organization of a research project. Review of research literature related to current themes and issues in education.

Prerequisite: Education 798X.

799.5X, 799.6X, 799.7X Special Topics in Education

45 hours; 3 credits

Selected topics or recent advances in education that reflect current interests, professional needs, and educational problems of teachers and other school personnel. Topics vary from term to term.

Prerequisite: license or certificate to serve as teacher, paraprofessional, or supervisor in day care center, kindergarten, elementary, or secondary school. Additional prerequisites may be required for a specific topic.

The following courses are inactive and will be offered only if there is sufficient demand:

- 680.3T Issues and Strategies in Education**
- 680.4T Issues and Strategies in Education**
- 700T Statistical Methods in Educational Research**
- 700.32T Observation and Assessment of Young Children with Special Needs**
- 700.33T Analysis of Learner Behavior**
- 701.IT Seminar in Research: Mathematics Education**
- 702T Seminar: Independent Research Project**
- 702.32T Applications of Theory in Special Education**
- 702.33T Theory and Practice in Special Education**
- 703.32T Seminar in Applied Theory and Research**
- 712.32T Teaching Young Children with Special Needs**
- 712.33T Instructional Strategies for Students with Special Needs**
- 715.32T Advanced Seminar in Disabilities**
- 715.33T Contextual Issues in Special Education**
- 716.32T Early Intervention and Working with Families**
- 717.32T Special Issues in Education: Communication and Young Children with Special Needs**
- 722T Behavioral Bases of Reading Instruction**
- 726.3X Psychological and Sociological Problems of Adolescence**
- 728T Community Resources in Guidance**
- 729T Industrial and Community Relations in Guidance**
- 731T Philosophical Issues in Contemporary Education**
- 734.IT Career and Educational Counseling**

- 735.3X Foundations of Professional School Counseling**
- 736.1T Counseling Leadership in Urban Schools**
- 745T Prevention, Diagnosis, and Remedial Treatment of Disabilities in the Language Arts**
- 745.2T Practicum in Remedial Reading**
- 747X Soviet Education**
- 747.1T The Teaching of English to Language-Handicapped Children in the Primary School**
- 747.2T The Teaching of English to Language-Handicapped Students in Upper Elementary and Early Secondary Grades**
- 748T Theories and Practices in the Study of the Young Child's Progress**
- 749T Human Relations Problems and Practices in Childhood Education**
- 759.48T Teaching English as a Second Language: The Arts as Expression**
- 760.49T ESL Approaches Across Content Areas (K-6)**
- 761.47T Mathematics, Science, and Technology in Bilingual Classrooms**
- 761.49T ESL Approaches Across Content Areas (7-12) Science and Technology**
- 762.47T Practicum: Bilingual Teaching PreK-6**
- 763.16T Seminar I in Pedagogy and Curriculum: Health and Nutrition Sciences**
- 763.33T Workshop in Secondary Education**
- 763.37T Workshop in Secondary Education**
- 764.21T Student Teaching Practicum in Education of Students with Cognitive Disabilities**
- 771.1T Recent Research and Innovation in School Practice for Supervisors of Student Teachers**
- 771.2T Practicum in Supervision of Student Teachers**
- 776.1X The Public Administration of Education**
- 776.2X Financing Public Education**
- 778.2T Internship in Educational Administration and Supervision II**
- 783T Thesis Research**
- 785.1X Instructional Software for Microcomputers**
- 785.2X Microcomputers in the Teaching of Mathematics**
- 785.3X Microcomputers in the Teaching of Language Arts**
- 786.1X Project Seminar in Computer Education**
- 797X Teaching Reading Improvement in Secondary School**

English

Office: 2308 Boylan Hall
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Chairperson: Ellen Tremper

Deputy Chairperson, Division of Graduate Studies and SGS:
Mark Patkowski

Deputy Chairperson, CLAS: Steven A. Jervis

Professors: Asekoff, Belton, Black, Boyle, Brooks, Browne, Brownstein, Buncombe, Cunningham, DeLuca, Elsky, Fairey, Hirsch, Jervis, Natov, Patkowski, Pearse, Reeves, Tremper, Viscusi, Wellman;

Associate Professors: Agoos, Bayoumi, Brinton, Farley, Gonsalves, Harrison, Roy;

Assistant Professors: Acosta, Davis, Entin, Lutzkanova-Vassileva, Masciandaro, Minter, Nadell.

The English Department offers the following degree programs: master of arts in English, master of fine arts in creative writing, and master of arts in teaching English (7-12).

Note: For changes in degree requirements that may have been put into effect subsequent to the publication of this Bulletin, please consult the graduate deputy.

Graduate courses are also offered in comparative literature.

M.A. in English HEGIS code 1501

Matriculation requirements

Applicants must offer at least 12 credits in advanced courses in English.

Foreign applicants for whom English is a second language are required to pass the Test of English as a Foreign Language (TOEFL) with a score of 650 before being considered for admission.

General matriculation and admission requirements of the Division of Graduate Studies are in the section "Admission."

Degree requirements

Thirty-three credits are required for the degree.

Courses in English and comparative literature are grouped in the following areas of study:

1. Literature before 1500: English 705X, 706X, 708X, 791X.
2. Literature from 1500 to 1800: English 721X, 724X, 731X, 751X, 760X, 761X, 792X.
3. Literature from 1800 to 1900: English 741X, 742X, 749.1X, 749.2X, 752X, 793X.
4. Literature from 1900 to the present: English 750X, 750.9X, 753.1X, 753.2X, 757X, 763X, 794X.
5. Theory and criticism: English 710X, 775X, 775.1X, 775.2X, 775.3X, 775.4X, 778X, 779X, 795X.
6. Language: English 701X, 702X, 702.6X, 703X, 705X, 706X, 795.6X.

7. Comparative literature: Comparative Literature 706.1X, 707.1X, 708.1X; English 795.7X.

The following courses are required: English 700X; English 780X; one course from each of the seven areas of study.

In addition, students must consult an adviser and choose three courses in one area.

Early in the first term, students must have a program of study approved by the English Department.

Students must submit a thesis acceptable to the department on a subject related to their area of specialization.

Students must pass a written comprehensive examination.

Students must pass the English Department M.A. French Examination or a test administered by the Department of Modern Languages and Literatures or they must pass a foreign language course acceptable to the deputy chairperson.

Courses in the English Department offered toward the degree must be 700-level courses.

M.F.A. in creative writing HEGIS code 1507

Program Coordinators: Louis S. Asekoff, Michael Cunningham, Mac Wellman

Students choose a concentration in one of the following: fiction, playwriting, or poetry.

Matriculation requirements

Fiction and Poetry: Applicants must offer at least 12 credits in advanced courses in English. Thirty pages of original fiction or twenty pages of original poetry must be submitted for evaluation.

Playwriting: Applicants must offer at least 12 credits in advanced courses in English or theater. One original full-length play or two or more original one-act plays must be submitted for evaluation.

Applicants who do not meet course requirements but whose manuscripts show unusual talent are considered for admission.

Manuscripts should be submitted directly to the deputy chairperson in the English Department at the time of application, before March 1 for fall admission and before November 1 for spring admission.

Foreign applicants for whom English is a second language are required to pass the Test of English as a Foreign Language (TOEFL) with a score of 650 before being considered for admission.

General matriculation and admission requirements of the Division of Graduate Studies are in the section "Admission."

Degree requirements

Thirty-six credits are required for the degree.

Students must complete one of the following concentrations. Each concentration consists of 24 credits.

Fiction: Students in the M.F.A. fiction concentration must take English 753.3X in their first semester; English 782X to be taken four times, but not more than once in any semester; English 799.1X to be taken two times in the first year but not more than once in any semester; English 796X to be taken two times in the second year; but not more than once in any semester.

Poetry: English 783X to be taken four times, but not more than once in any semester; English 797X to be taken four times, but not more than once in any semester.

Playwriting: English 784X to be taken four times, but not more than once in any semester; English 798X to be taken four times, but not more than once in any semester.

Students must complete 12 credits in four courses chosen from 700-level courses in literature in the English Department (including courses in comparative literature).

Students may substitute for no more than two such courses any two 700-level courses from the Departments of Art, History, Modern Languages and Literatures, Philosophy, Speech, Television and Radio, or Theater or the Conservatory of Music. Students may substitute one writing workshop or tutorial outside of their major writing concentration for one literature course.

Permission to register for any of these substitute courses may be required from the graduate deputy chairperson of the appropriate department.

Students must pass a comprehensive examination that tests a knowledge of literature, particularly modern literature in the genre most pertinent to the student's own writing. A list of books on which the student is tested is prepared by the student and adviser.

A substantial manuscript must be submitted and filed according to instructions available from the deputy chairperson. Students concentrating in fiction or poetry must submit original creative writing in publishable form, such as a novel or collection of stories or poems. Students concentrating in playwriting must submit a full-length play or a number of one-act plays, in producible form, that would constitute a theatrical production. In cooperation with the Theater Department, efforts are made to produce the student's major work.

The program of study must be approved by the department.

Recommendations

Students are urged to take one workshop, one tutorial, and one literature course each semester in order to complete the program in four semesters. A reading knowledge of a foreign language is strongly recommended.

M.A., English teacher (7-12) HEGIS code 1501-01

The profession of teacher education is licensed by the New York State Education Department. Therefore, program requirements are subject to change. All students should consult with the School of Education for the current requirements.

Matriculation requirements

Applicants must offer at least 12 credits in advanced courses in English.

Applicants must also offer (a) or (b) or (c):

(a) New York State Initial Certification in teaching English for grades 7-12;

(b) courses in education that meet the New York State standards for the pedagogical core. These courses include study of the following: history of education and philosophy of education or principles of education or educational sociology; educational psychology or developmental psychology or psychology of adolescence or adolescent development; classroom management; teaching students with special needs and English language learners; 6 credits in literacy and language acquisition; curriculum development and methods of assessing student learning; uses of technology in the classroom; methods of teaching English in grades 7-12; 100 hours of fieldwork; 40 days or 300 hours of student teaching of English in grades 7-12, or one year of full-time teaching of English in grades 7-12; and submission of scores on the L.A.S.T.;

(c) an undergraduate degree with a major in English or appropriate course work in English, and submission of scores on the L.A.S.T.

Applicants must have a minimum undergraduate grade point average of 3.00. A minimum average of 3.00 in graduate courses is required to maintain matriculation.

Applicants who have not completed all the specific course requirements are given individual consideration and may be admitted with conditions, with the approval of the head of adolescence education and special subjects in the School of Education and the chairperson of the English Department.

International applicants for whom English is a second language are required to pass the Test of English as a Foreign Language (TOEFL) with a score of 650 before being considered for admission.

Applicants must consult matriculation requirements for adolescence education and special subjects in the School of Education section of the Bulletin, and should see the head of adolescence education and special subjects for counseling.

General matriculation and admission requirements of the Division of Graduate Studies are in the section "Admission."

Degree requirements

A minimum of 30 credits is required for the degree.

Students must complete 18 credits in courses in English.

The following course is required: English 700.1X. In addition, students must complete a course in five of the seven areas of study listed under the M.A. in English above, as follows: three courses from three of the first four areas; one course from area 5; and one course from either area 6 or 7.

Students must complete 12 credits in courses in the School of Education. Students take different education courses and

sequences of courses depending on their previous course work, teaching experience, and the certificates they hold. Students who possess Initial Certification in teaching English must complete 9 credits in Group II and 3 credits in Group III, below. Students who do not possess Initial Certification in teaching English or equivalent course work and teaching experience or who are teaching but do not possess Initial Certification in teaching English must have the appropriate course work and credits in the subject area and must complete the appropriate courses in Group I before taking courses in Groups II and III, below. Students pursuing Initial Certification in teaching English must take ED 792.4X, Advanced Theories and Practice of Composition, in Group III. Students who already have a master's degree but wish Initial Certification in teaching English must take appropriate courses in Group I and Group III, below, as determined at the time of matriculation by the head of adolescence education and special subjects in the School of Education.

Group I: ED 742X, ED 792.1X, ED 763.01T, ED 764.5T, ED 723.01T, ED 764.51T.

Group II: ED 742.2T, ED 722.01T, ED 724.01T.

Group III: ED 716X, ED 721.01T, ED 726.1X, ED 731.3T, ED 751.2T, ED 784.2X, ED 792.2X, ED 792.4X/ENG 779X, ED 796X/THE 741, ED 799.5X.

Students must pass a written comprehensive examination. Information about the comprehensive examination is in the section "Academic Regulations and Procedures."

Courses in the English Department and the School of Education offered toward the degree must be 700-level courses.

The program of study must be approved early in the first semester by the chairperson or deputy chairperson of English Department and the head of adolescence education and special subjects in the School of Education.

CUNY Ph.D.

The City University of New York offers a doctoral program in English. General information about CUNY Ph.D. programs is in the chapter "About Brooklyn College."

The English Department offers courses at Brooklyn College that students matriculated in the CUNY doctoral program may credit toward the CUNY doctoral degree with permission of the executive officer of the doctoral program. For information about the courses, students should consult the deputy chairperson of the English Department and the executive officer of the doctoral program.

Courses

Unless a prerequisite is specific, students may apply graduate or undergraduate courses toward fulfillment of that prerequisite.

Candidates for a master's degree in another department may take courses in English on the

700 level with permission of the deputy chairperson of the English Department.

The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

Language and Literature

600X Advanced Composition Workshop for ESL Graduate Students

30 hours plus conference; 3 credits

Intensive study of and practice in writing English at the advanced level of ESL to increase students' abilities to write well-organized and well-developed essays, research papers, analyses, and/or theses in clear, fluent language. Includes individual and group work. The course may be repeated with the instructor's permission. Open to graduate students from all departments.

Prerequisite: open to non-native speakers.

700X Introduction to Literary Research

30 hours plus conference; 3 credits

Introduction to methods of research and bibliography. Evaluation of various critical approaches. Independent research supervised by a faculty member.

700.IX Literary Texts and Critical Methods

30 hours plus conference; 3 credits

Reading and analysis of several genres of literature from several historical periods. Introduction to practical criticism, bibliographical methods, and literary criticism as a genre. Analysis of representative texts and critical approaches.

701X History of the English Language

30 hours plus conference; 3 credits

The origins of the English language. Its development to the present.

702X Structure of Modern English

30 hours plus conference; 3 credits

Description of modern English based on modern linguistic theory. Comparison of traditional grammar with more recent grammars. Relation of written language to spoken language. Usage. (Not open to students who have completed English 725X.)

702.6X Introduction to Linguistics

30 hours plus conference; 3 credits

Introduction to phonology, morphology, syntax, semantics. Current problems in linguistic theory and methodology. (Not open to students who have completed English 726X.)

703X Language, Culture, and Society

30 hours plus conference; 3 credits

Examination of the various formulations of the interconnections among language, culture, and society. Focus

on the interplay of language, society, and power with particular attention to issues of linguistic diversity based on gender and race, and to issues of multilingualism in education. Readings from the fields of linguistics, linguistic anthropology, philosophy, and literary theory. This course is the same as Liberal Studies 720X.

Prerequisite: none.

705X The Canterbury Tales

30 hours plus conference; 3 credits

Literary and linguistic analysis of the stories in Chaucer's final work.

706X Chaucer's Work Exclusive of The Canterbury Tales

30 hours plus conference; 3 credits

Emphasis on *The Book of the Duchess*, *The House of Fame*, *The Parliament of Fowls*, *Troilus and Criseyde*, *The Legend of Good Women*.

708X Literature of the Middle Ages

30 hours plus conference; 3 credits

Selected literary works drawn primarily but not exclusively from British and other European literatures, 700–1500. (Not open to students who have completed English 718X.)

710X Literature and Folklore

30 hours plus conference; 3 credits

Significant folk tale patterns and themes as they occur in diverse cultures and literatures.

721X Early Modern Literature

30 hours plus conference; 3 credits

Selected works in prose and verse drawn primarily but not exclusively from British and other European literatures of the sixteenth and seventeenth centuries.

724X Milton

30 hours plus conference; 3 credits

Critical study of Milton's lyric, epic, dramatic poems.

731X Literature of the Long Eighteenth Century

30 hours plus conference; 3 credits

Reading and analysis of major works, exclusive of the novel, drawn primarily but not exclusively from British and other European literatures produced 1660 to 1800.

741X Nineteenth-Century Literature I

30 hours plus conference; 3 credits

Selected literary works of the first half of the nineteenth century drawn primarily but not exclusively from British and other European literatures.

742X Nineteenth-Century Literature II

30 hours plus conference; 3 credits

Selected literary works of the second half of the nineteenth century drawn primarily but not exclusively from British and other European literatures.

749.1X American Literature of the Nineteenth Century I

30 hours plus conference; 3 credits

Literature primarily but not exclusively of the United States, up to 1865. (Not open to students who have completed English 749X.)

749.2X American Literature of the Nineteenth Century II

30 hours plus conference; 3 credits

Literature primarily but not exclusively of the United States, after 1860. (Not open to students who have completed English 749X.)

750X American Poetry of the Twentieth Century

30 hours plus conference; 3 credits

Major tendencies of the period as exemplified in the poetry and criticism.

750.9X Poetry of the Twentieth Century

30 hours plus conference; 3 credits

Characteristic works of major authors drawn primarily but not exclusively from British and other European literatures. (Not open to students who have completed English 759X.)

751X The Novel in the Eighteenth Century

30 hours plus conference; 3 credits

Selected novels drawn primarily but not exclusively from British and other European literatures.

752X The Novel in the Nineteenth Century

30 hours plus conference; 3 credits

Selected novels of the nineteenth century drawn primarily but not exclusively from British and other European literatures.

753.1X Twentieth-Century American Fiction

30 hours plus conference; 3 credits

Selected short stories, novellas, and novels with focus primarily but not exclusively on fiction of the United States.

753.2X Twentieth-Century Fiction

30 hours plus conference; 3 credits

Selected short stories, novellas, and novels with focus primarily but not exclusively on fiction of Britain and other European countries.

753.3X The Craft of Fiction

30 hours plus conference; 3 credits

Aspects of the craft of writing the novel from the perspective

of a writer of fiction; topics include voice, tone, time, structure, character development, plotting, and ending.

Prerequisite: matriculation in the creative writing program with a concentration in fiction or permission of the deputy chairperson.

757X Modern Irish Literature

30 hours plus conference; 3 credits

Major Irish writers from 1885 to the present, including Yeats, Synge, Joyce, O'Casey.

760X Early Modern Drama Exclusive of Shakespeare

30 hours plus conference; 3 credits

Selected works drawn primarily but not exclusively from British and other European dramas, 1450 to 1660. (Not open to students who have completed English 716X.)

761X Shakespeare

30 hours plus conference; 3 credits

Problems of interpretation in relation to selected comedies, histories, tragedies. (Not open to students who have completed English 736X.)

763X Twentieth-Century Drama

30 hours plus conference; 3 credits

Selected works primarily but not exclusively by modern and postmodern American and British and other European playwrights. (Not open to students who have completed English 758X.)

775X Introduction to Critical Theory

30 hours plus conference; 3 credits

A general introduction to such major contemporary critical theories as structuralism, new criticism, Marxism, feminism, queer studies, poststructuralism, and postcolonialism.

775.1X Feminist Literary Theory

30 hours plus conference; 3 credits

The relations between women and literature; the development of feminist thought and its impact on literature and literary theory; definitions of feminist literary theory by contemporary writers.

775.2X Literature and Society

30 hours plus conference; 3 credits

Social factors conditioning the composition and enjoyment of literature. The place of literature (oral or written) as an institution in several historical periods or cultures.

775.3X Literature and Psychoanalytic Criticism: Theory and Practice

30 hours plus conference; 3 credits

A survey of theories in psychoanalytic criticism and an application of such theories in detailed analyses of selected

literary works. Freudian, Jungian, and other psychoanalytic orientations discussed.

775.4X Postcolonial Literature and Theory

30 hours plus conference; 3 credits

Literary and philosophical responses to European colonialism and its aftermath. Readings are drawn from around the world to suggest the global character of the postcolonial condition.

778X Theories of College-level English Composition

30 hours plus conference; 3 credits

Theory and practice of teaching basic writing and English composition at the college level, and such related issues as evaluation, testing, invention, and rhetorical forms.

779X Advanced Theories and Practice of Composition

30 hours plus conference; 3 credits

Theory and practice of teaching writing at the secondary level (grades 7–12), and such related issues as revision, evaluation, and teaching writing to English language learners. This course is the same as Education 792.4X.

779.1X Assessment of Second Language Learners

30 hours plus conference; 3 credits

Assessment of English language learners, including those with special needs. Emphasis on qualitative and quantitative procedures. Examination of major language instruments for all ages and proficiency levels, development of self-made language tests and informal assessment techniques, and practical reflection on linking language assessment to instruction. Consideration of linguistic, cultural, and socioeconomic background in modifying and adapting testing procedures. Applications to educational and community settings. This course is the same as Education 766.2X and Speech 735.1X.

Prerequisite: Either Education 760.49T and 761.49T or a course in normal development of language; or permission of the deputy chairperson.

779.2X Introduction to Second Language Acquisition and English Language Learning

30 hours plus conference; 3 credits

Survey of second language acquisition theory and research as it relates to teaching English as a second language. The influence of speech and language disorders. Application of recent research findings in child first and second language acquisition, language topology, universal grammar and parameters, various models of second language acquisition, instructed second language learning, the critical period hypothesis, the social context, and other influences on second language acquisition. Data collection analysis. This course is the same as Education 798X and Speech 735X.

Prerequisite: English 702.6X or a course in normal language acquisition or permission of the deputy chairperson.

779.3X ESL Approaches Across the Content Areas (7-12)

30 hours lecture plus 25 hours field experience and conference; 3 credits

Methods and materials for teaching English as a second language in secondary classrooms. Integrated approaches and strategies for instruction through the content areas, including social studies, mathematics, and science. Field experience in schools at the 7-12 level required. Includes approaches for students with special developmental and educational needs. This course is the same as Education 761.49T.

Prerequisite: English 702X.

780X Thesis Project

30 hours plus conference; 3 credits

An extensive research project, supervised by a member of the faculty, that leads to submission of a master's thesis. Students may receive credit for this course only after approval of the completed thesis.

Prerequisite: completion of English 700X; approval of the graduate deputy chairperson.

791X, 792X, 793X, 794X, 795X, 795.6X, 795.7X

Seminar in Textual Analysis

30 hours plus conference; 3 credits each term

Intensive study in selected texts. Selection of authors varies from year to year at the discretion of the instructor. Seminars are offered as follows: 791X, area 1; 792X, area 2; 793X, area 3; 794X, area 4; 795X, area 5; 795.6X, area 6; 795.7X, area 7. With the permission of the graduate deputy, students may take a seminar in the same area twice if the topics are different.

Creative writing

782X Fiction Workshop

30 hours plus conference; 3 credits

Detailed examination in seminars of stories or segments of novels written by class members. This course may be taken four times, but not more than once in any semester. (A student may not receive more than 12 credits for any combination of the following courses: English 782X, 782.1X, 782.2X, 782.3X.)

Prerequisite: matriculation in the creative writing program with a concentration in fiction or permission of the deputy chairperson.

783X Poetry Workshop

30 hours plus conference; 3 credits

Detailed examination in seminars of poems written by class members. This course may be taken four times, but not more than once in any semester. (A student may not receive more than 12 credits for any combination of the following courses: English 783X, 783.1X, 783.2X, 783.3X.)

Prerequisite: matriculation in the creative writing program with a concentration in poetry or permission of the deputy chairperson.

784X Playwriting Workshop

30 hours plus conference; 3 credits

Detailed examination in seminars of scenes or plays written by class members and selections from contemporary dramatic literature. This course may be taken four times, but not more than once in any semester. (A student may not receive more than 12 credits for any combination of the following courses: English 784X, 784.1X, 784.2X, 784.3X.)

Prerequisite: matriculation in the creative writing program with a concentration in playwriting or permission of the deputy chairperson.

796X Fiction Tutorial

Hours to be arranged; 3 credits

Intensive examination of the student's writing. Advice on the preparation of a substantial manuscript in publishable form. This course may be taken four times, but not more than once in any semester. (A student may not receive more than 12 credits for any combination of the following courses: English 796X, 796.1X, 796.2X, 796.3X.)

Prerequisite: matriculation in the creative writing program with a concentration in fiction or permission of the deputy chairperson.

797X Poetry Tutorial

Hours to be arranged; 3 credits

Intensive examination of the student's writing. Advice on the preparation of a substantial manuscript in publishable form. This course may be taken four times, but not more than once in any semester. (A student may not receive more than 12 credits for any combination of the following courses: English 797X, 797.1X, 797.2X, 797.3X.)

Prerequisite: matriculation in the creative writing program with a concentration in poetry or permission of the deputy chairperson.

798X Playwriting Tutorial

Hours to be arranged; 3 credits

Intensive examination of the student's writing. Advice on the preparation of a substantial manuscript in producible and/or publishable form. This course may be taken four times, but not more than once in any semester. (A student may not receive more than 12 credits for any combination of the following courses: English 798X, 798.1X, 798.2X, 798.3X.)

Prerequisite: matriculation in the creative writing program with a concentration in playwriting or permission of the deputy chairperson.

799X Group Literature Tutorial

30 hours plus conference; 3 credits

Advanced textual analysis of selected literary works and creative writing related to these works and to the M.F.A. project. The course will substitute for one of the four literature courses required for the M.F.A. degree. Weekly course meetings and individual tutoring.

799.IX Group Fiction Tutorial

30 hours plus conference; 3 credits

Advanced textual analysis of selected literary works; creative writing related to these works. Weekly course meetings for first-semester students enrolled in the M.F.A. fiction concentration. This course may be taken two times in the first year but not more than once in any semester.

Prerequisite: matriculation in the creative writing program with a concentration in fiction or permission of the deputy chairperson.

Comparative Literature

706.IX Studies in Literary Periods

30 hours plus conference; 3 credits

A single period, chosen from classical antiquity to the twentieth century, is studied intensively. The topic is announced each term.

707.IX Studies in Literary Genres

30 hours plus conference; 3 credits

Theory or history of a single literary genre, such as the epic, the drama, the lyric, the novel, is studied intensively. The topic is announced each term.

708.IX Studies in Special Authors

30 hours plus conference; 3 credits

An individual author in his or her international context. The author is announced each term.

Film

Office: 200 Field Building

Telephone: 951-5664, 951-5665, 951-5057

Web: <http://dept.home.brooklyn.cuny.edu/film>

Chairperson: Lindley P. Hanlon

Deputy Chairpersons, CLAS: Virginia Brooks

Production Head: Virginia Brooks

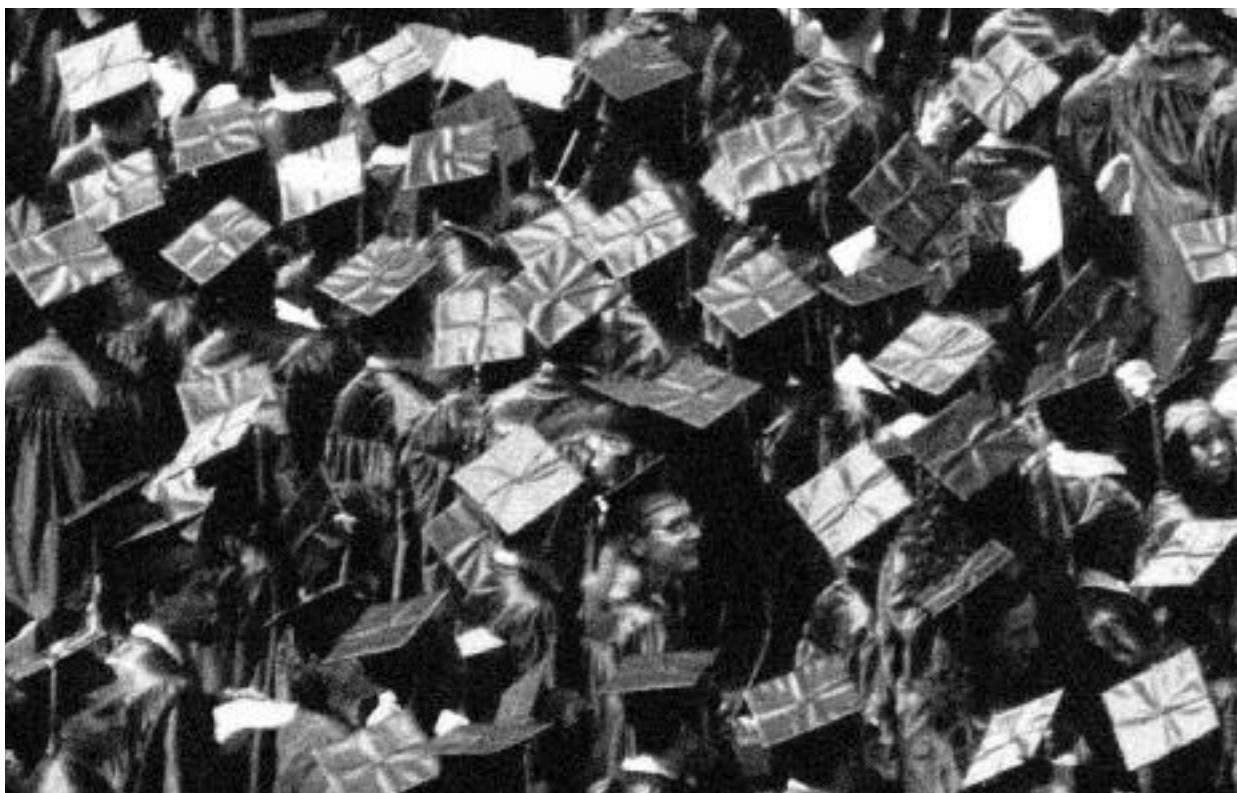
Film Studies Head: Elisabeth Weis

Professors: Brooks, Hanlon, Hirsch, Weis;

Associate Professors: Danto, Gurskis, Massood;

Assistant Professors: Hornsby, Tutak, Voelpel.

The Film Department offers an undergraduate certificate program in film production (ten 3-credit courses). This program is open to undergraduate students as well as to postbaccalaureate students. Applicants should consult the Film Department for further information. The Film Department also offers courses that are part of the advanced certificate program in Performance and Interactive Media Arts (PIMA).



General Science

Office: 2606 James Hall

Telephone: 951-5061

Interdepartmental Coordinator: Eleanor Miele

M.A., general science teacher (5–9)

HEGIS code 4902

General matriculation requirements

Applicants must submit scores on the Liberal Arts and Science Test (L.A.S.T.).

Applicants must have a minimum undergraduate grade point average of 3.00. A minimum grade point average of 3.00 in graduate courses is required to maintain matriculation.

International applicants for whom English is a second language are required to pass the Test of English as a Foreign Language (TOEFL) with a minimum score of 550 to be considered for matriculation.

General matriculation and admission requirements of the Division of Graduate Studies are in the section "Admission."

General degree requirements

Thirty to 46 credits are required for the degree.

Students must complete 12–15 credits in courses in biology, chemistry, geology, physics, and general science.

The program of study must be approved by the general science coordinator.

Students must complete the following education courses in the stated sequence:

Education 712.25T, 713.25T, 724.04T. All required education courses and some education electives require permission for registration as indicated in the Schedule of Classes.

Subprogram I: Middle childhood education generalist with a concentration in general science

This subprogram leads to a Master of Science in Education and a New York State Professional Certificate in Middle Childhood Education with a specialization in general science (grades 5–9). Matriculation requirements for all three options below include 15 credits of science.

Option (A): 30 credits.

Matriculation requirements

Applicants must hold a New York State Initial Certificate in Middle Childhood Education (grades 5–9) or its equivalent.

Degree requirements

Thirty credits are required for the degree.

In addition to Education 712.25T, 713.25T, and 724.04T, the following courses are required: 6 credits in general science; an additional total of 6 credits in graduate courses in any of the following: biology, chemistry, physics, geology, and general science; Mathematics 604.1T; Education 784.2X; one of the following elective education courses, or an education course approved by the program adviser: Education 726.1X, 726.2T, 742.1X, 744T, 751.2T, 765.1X, 792.2X.

Option (B): 33 credits

Matriculation requirements

Applicants must hold a New York State Initial Certificate in Childhood Education (grades 1–6) or its equivalent or a New York State Initial Certificate in Adolescence Education (grades 7–12) or its equivalent.

Degree requirements

Thirty-three to 34 credits are required for the degree.

In addition to Education 712.25T, 713.25T, and 724.04T, the following courses are required:

6 credits in general science; an additional total of 6 credits in graduate courses in any of the following: biology, chemistry, physics, geology, and general science; Mathematics 604.1T; Education 784.2X and 765.1X.

Student teaching in grades 7–8 for those with Initial Certification in Childhood Education (Education 763.03T and 764.5X) or grades 5–6 for those with Initial Certification in Adolescence Education (Education 764.2).

Option (C): 46 credits

This program leads to both New York State Initial and Professional Certificates in Middle Childhood Education with a specialization in general science (grades 5–9).

Degree requirements

Forty-six credits are required for the degree.

Students must complete Education 742X, 792.1X, 763.04T, 764.5T, 725.03X, and 763.23T prior to taking other education courses required for the degree. Students must obtain departmental permission to register for these courses.

In addition to Education 712.25T, 713.25T, and 724.04T, the following courses are required: 6 credits in general science; an additional total of 6 credits in graduate courses in any of the following: biology, chemistry, physics, geology, and general science; Mathematics 604.1T; Education 765.1X and 792.2X.

Subprogram II: Middle childhood education with a specialization in biology, chemistry, physics, or earth science

This subprogram leads to a Master of Science in Education and a New York State Professional Certificate in Middle Childhood Education with a specialization in biology, chemistry, physics, or earth science (grades 5–9). Matriculation requirements for all three options below include an undergraduate major in biology, chemistry, physics, or geology or the equivalent.

Option (A): 30 credits.

Matriculation requirements

Applicants must hold a New York State Initial Certificate in Middle Childhood Education (grades 5–9) or its equivalent.

Degree requirements

Thirty credits are required for the degree.

In addition to Education 712.25T, 713.25T, and 724.04T, the following courses are required:

15 credits in graduate courses in any of the following: biology, chemistry, physics, geology, and general science; Education 784.2X; one of the following elective education courses, or an education course approved by the program adviser: Education 713.23T, 726.1X, 726.2T, 742.1X, 744T, 751.2T, 765.1X, 792.2X.

Option (B): 33 credits

Matriculation requirements

Applicants must hold a New York State Initial Certificate in Childhood Education (grades 1–6) or its equivalent or a New York State Initial Certificate in Adolescence Education (grades 7–12) or its equivalent.

Degree requirements

Thirty-three to 34 credits are required for the degree.

In addition to Education 712.25, 713.25, and 724.04, the following courses are required: 15 credits in graduate courses in any of the following: biology, chemistry, physics, geology, and general science; Education 784.2X and 765.1X.

Student teaching in grades 7–8 for those with Initial Certification in Childhood Education (Education 763.04T and 764.5X) or grades 5–6 for those with Initial Certification in Adolescence Education (Education 763.23T).

Option (C): 46 credits

This program leads to both New York State Initial and Professional Certificates in Middle Childhood Education with a specialization in biology, chemistry, physics, or earth science (grades 5–9).

Degree requirements

Forty-six credits are required for the degree.

Students must complete Education 742X, 792.1X, 763.04T, 764.5T, 725.03X, and 763.23T prior to taking other education courses required for the degree. Students must obtain departmental permission to register for these courses.

In addition to Education 712.25T, 713.25T, and 724.04T, the following courses are required: 15 credits in graduate courses in any of the following: biology, chemistry, physics, geology, and general science; Education 765.1X and 792.2X.

Courses

The following courses are creditable toward the M.S. in Ed. degree, Childhood Education Teacher (1–6)

Program, science and environmental education for childhood education teachers (HEGIS code 0802).

They are also open to childhood education teachers with permission of the general science coordinator.

These courses are not creditable toward the M.A. degree program leading to certification as teacher of academic subjects in adolescence education.

The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

603T General Science in Childhood and Middle Childhood Education

45 hours; 3 credits

Content and materials used in science instruction in childhood and middle childhood education. Survey of basic sciences, including laboratory exercises, demonstrations, preparation of individual projects applicable to childhood education.

Prerequisite: matriculation in the elementary education program and a year's work in science; or permission of the general science coordinator.

604.1T Selected Concepts in the Physical Sciences for Childhood and Middle Childhood Teachers

30 hours lecture, 30 hours laboratory; 3 credits

Matter and energy and their interrelationship. Development of the concepts of force, electricity, magnetism, heat and energy. Application to explanation of phenomena appropriate for elementary and middle school topics. Addresses content and pedagogy.

Prerequisite: a minimum of one undergraduate laboratory course in science or permission of the general science coordinator.

604.3T Selected Environmental Concepts in the Biological Sciences for Childhood and Middle Childhood Teachers

30 hours lecture, 30 hours laboratory and fieldwork; 3 credits
Selected environmental concepts in biological sciences. Topics include ecosystems, population and food supply, genetics, evolution. Addresses content and pedagogy.

Prerequisite: a minimum of one undergraduate laboratory course in science or permission of the general science coordinator.

604.4T Selected Concepts in Earth Science for Childhood and Middle Childhood School Teachers

30 hours lecture, 30 hours laboratory and fieldwork; 3 credits

Selected concepts from astronomy, geology, meteorology, oceanography. Addresses content and pedagogy.

Prerequisite: a minimum of one undergraduate laboratory science course or permission of the general science coordinator.

604.5T Selected Concepts in the Environmental Sciences for Childhood and Middle Childhood Teachers

30 hours lecture, 30 hours laboratory; 3 credits

Air and water pollution, solid waste, and natural resources. Scientific and technological material related to the environment. Addresses content and pedagogy.

Prerequisite: General Science 604.3T or permission of the general science coordinator.

Geology

Office: 3131 Ingersoll Hall
Telephone: 951-5416

Chairperson: Wayne G. Powell

Deputy Chairperson, Division of Graduate Studies:
Constantin Cranganu

Deputy Chairperson, CLAS: David J. Leveson

Professors: Chamberlain, Cherukupalli, Friedman, Leveson,
Savage, Seidemann;

Associate Professors: Aja, Cranganu;

Assistant Professor: Powell.

The Department of Geology offers a master of arts degree program in geology.

M.A. in geology HEGIS code 1914

Matriculation requirements

Applicants must offer an undergraduate major in geology or the equivalent, completed with a grade point average of 3.00 (B) or higher.

Applicants must offer courses in the following: physical geology including geomorphology; historical geology or stratigraphy and sedimentology; invertebrate paleontology or faunal stratigraphy; geochemistry; structural geology; mineralogy including elementary crystallography; petrography or optical mineralogy including use of the petrographic microscope; field geology including a minimum of six weeks of fieldwork and a field report; two terms of differential and integral calculus; one term of computer and information science; two terms of physics; and two terms of chemistry. Applicants planning to specialize in soft-rock geology must have completed at least one term of biology.

In some cases, the graduate committee in geology may waive part of the geology requirements stated above for applicants with a strong background in one or more of the basic sciences who plan to study in such special fields as geophysics, geochemistry, and paleontology.

General matriculation and admission requirements of the Division of Graduate Studies are in the section "Admission."

In lieu of the GRE requirement the student may elect the following option: Within six months of matriculation, the student must pass a qualifying examination given by the department. Details about this examination may be obtained from the department.

Degree requirements

Thirty credits in courses in geology are required for the degree. With permission of the geology graduate committee, pertinent courses in other science departments may be included in the 30 credits.

Students must choose one of the following options:

I. Students must submit a thesis acceptable to the department and orally present and defend it. A maximum of

3 credits in the series Geology 795.1G–795.3G may be counted toward the degree.

2. Students must pass a comprehensive examination and submit a research paper acceptable to the department. Information on the research paper is available in the department office.

In exceptional cases, the graduate geology committee may waive required courses or prerequisites.

Information about requirements for the comprehensive examination and thesis is in the section "Academic Regulations and Procedures."

Courses in the Geology Department offered toward the degree must be 700-level courses.

The program of study must be approved by the department graduate committee.

Assistantships

Some assistantships in teaching and research are available to qualified students. Inquiry should be made of the chairperson.

CUNY Ph.D.

The City University of New York offers a doctoral program in earth and environmental sciences, in which the Geology Department participates. General information about CUNY Ph.D. programs is in the chapter "About Brooklyn College."

For information about the courses, students should consult the deputy chairperson of the Geology Department and the executive officer of the doctoral program.

Honor Society

Sigma Xi, the Scientific Research Society, encourages original investigation in the natural sciences, pure and applied. The fields of activity of the society include the physical sciences, the life sciences, the earth sciences, and mathematics. The Brooklyn College Chapter elects students to associate membership in the society on the basis of academic excellence and marked aptitude for research in one of the fields listed above.

Courses

Unless a prerequisite is specific, students may apply graduate or undergraduate courses toward fulfillment of that prerequisite.

The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

604T Meteorology

5 hours; 3 credits

An introduction to weather and its causes: Earth's atmosphere and energy budget; humidity and precipitation; clouds; air pressure, and wind; storms and hurricanes; weather forecasting. Climate change predictions considered from geological and

historical perspective. (Not open to students who completed Geology 33 or 33.2 or the equivalent.)

Prerequisite: Geology 607T.

606T Geology of the National Parks

45 hours; 3 credits

Geologic landscape features of the national parks of the United States; geologic history and geological processes of landscape formation; role of parklands in modern society; national parks as recreation reserves, habitat preserves, and national geological laboratories. Areas covered in the course include such parks as Grand Canyon, Yellowstone, Yosemite, Glacier; Virgin Islands, Badlands, Shenandoah, Everglades, Acadia, and Voyageurs.

607T Earth Science I

30 hours lecture, 30 hours laboratory and discussion; 3 credits

Stars and the solar system, description and motions of the earth in space, earth-moon system. Structure of the atmosphere. Weather elements and observations. Properties of the oceans. Internal structure of the earth: earthquakes, igneous activity. Laboratory work includes trip to the Rose Center for Earth and Space. (Not open to students who have completed a course in the physical world or principles of physical geography or historical geology or earth science.) Prerequisite: two terms of general physics and two terms of general chemistry.

608T Earth Science II

30 hours lecture, 30 hours laboratory and discussion; 3 credits

Agents and processes of gradation: weathering, mass-wasting, groundwater and stream erosion, glaciation, action of wind and waves. Rock types. Movement of the earth's crust. Principles of historical geology. Geologic time, evolution, paleontology. Laboratory work includes a field trip and a museum trip.

Prerequisite: Geology 607T or permission of the chairperson.

610T Geology of New York City with Field Studies

15 hours lecture, 60 hours laboratory/field; 3 credits

Principles of the geologic record, geologic history of New York City and neighboring areas; rock formations, structures, age, glaciation, and other related features; laboratory study of rocks, fossils, and structures of the region; field trips, mostly on weekends, to various locations in and around New York City; environmental considerations.

611T The History of Life

45 hours; 3 credits

The history of life on earth as evidenced by fossils; origin and evolution of early life forms; the oxygen revolution; rise of animals and diversification of life; origin of vertebrates; conquest of land; dinosaurs and the reptile zenith; birds; origin and diversification of mammals; primates and human ancestry; mass extinction and the future.

612T Earth Sciences: Planetary—

The Earth Perspective

30 hours lecture, 30 hours laboratory; 3 credits

Solar system; planetary bodies, their sizes, compositions, and interiors; meteorites, Sun-Earth-Moon relations; planetary environments; surface processes; heat balances and climates; earth's climatic and environmental conditions.

630T Global Environmental Change

45 hours lecture; 3 credits

Natural global cycles of water, carbon, nitrogen, phosphorus, and sulfur; biogeochemical changes in terrestrial ecosystems, freshwater wetlands, lakes, rivers, estuaries, and oceans; global climactic changes including global warming; anthropogenic aspects of global environmental change.

666T The Natural History of the New York City Environment

45 hours lecture, 2 field trips; 3 credits

A thematic approach to the natural history of New York City focusing on interdisciplinary topics in science and mathematics for the secondary school teacher. Interconnected urban-focused subjects in paleobiology, geochemistry, geology, and geophysics including: geologic history and landscape development of the New York area; coastal and shoreline processes; relation between city infrastructure and environment; local environments; air; water; soil pollution; recycling and public policy. Emphasis on uses of mathematics and technology in natural history studies. Two required field trips.

705G Earth's Internal Processes

30 hours lecture; 30 hours laboratory; 3 credits

Processes driven by the Earth's internal heat. The structure, composition, and dynamics of the Earth's crust, mantle, and core; the methods and reasoning by which these have been deduced; causal mechanism for plate tectonics.

706G Earth's Surface Processes

30 hours lecture; 30 hours laboratory; 3 credits

Composition and dynamics of the hydrosphere and atmosphere; physical and chemical weathering; origin and evolution of land forms; human interaction with surface processes.

714G Geophysics

45 hours lecture or seminar; 3 credits

Principles of seismology: elastic constants, types of propagation of elastic waves. Exploration and earthquake seismology; gravity and magnetic fields of the earth. Development of a comprehensive earth model based on geophysical data and concepts.

720G Mineralogy

30 hours lecture, 30 hours laboratory; 3 credits

Crystal chemistry, mineral genesis and crystal growth, physicochemical principles governing crystal structure, mineral properties related to crystal structures, methods of analysis.

Prerequisite: Geology 722G.

730G Paleontology of Invertebrates

30 hours lecture, 15 hours seminar, 30 hours laboratory; 4 credits

Advanced treatment of the functional morphology, systematics, evolutionary history, paleoecology of invertebrate animals through geologic time. Laboratory techniques in the use of fossils as primary data of organic evolution and as indicators of paleoenvironments. (This course is also open to qualified graduate students in biology.)

740G Sedimentology

30 hours lecture, 45 hours laboratory; 3 credits

Dynamics of sedimentation, depositional environments, diagenesis and lithification. Fabrics, structures, classification of sedimentary rocks. Mechanical, chemical, microscopic, X-ray laboratory techniques in sedimentary analysis. Statistical methods. Special problems of clay and carbonate sedimentation.

741G Carbonate Sedimentology

45 hours lecture, 30 hours laboratory and/or fieldwork; 4 credits

Modern patterns of carbonate sediments. Relation of carbonate facies to paleogeography. Evaporites and carbonate facies. Lithification and cement-porosity relationships. Development of carbonate hydrocarbon reservoirs. Case histories of carbonate facies, including vertical sequences, lateral and temporal relationships, and carbonate hydrocarbon reservoirs.

742G Stratigraphy

30 hours lecture, 30 hours laboratory; 3 credits

Principles of stratigraphy. Stratigraphic record and nomenclature. Faunal stratigraphy and correlation. Systematic stratigraphy of North America: Pre-Cambrian problems; geosynclinal, cratonal, nonmarine sedimentation of the Paleozoic era; Mesozoic and Cenozoic stratigraphy; paleontological aspects.

747G Groundwater Hydrology

30 hours lecture, 60 hours laboratory; 4 credits

Physical, geochemical, and geologic aspects of groundwater hydrology; groundwater occurrence; resource and management; groundwater contamination and environmental problems. Laboratory work includes field trips, computer models, and case studies.

753G Photogeology

30 hours lecture or seminar, 30 hours laboratory; 3 credits

Principles of photogrammetry. Geologic interpretation of aerial and satellite photographs. Structural and geomorphic features; determinations of their parameters.

755G Geomedicine

3 hours; 3 credits

Exploration of the earliest records of disease and how they are manifested and preserved in fossils; relationship of disease to environmental factors. Consideration of disease as a factor in the extinction of plants, dinosaurs, and mastodons. Modern geomedical consequences of the exponential increase of populations and proliferation of pollution caused by technology in the environment of plants, animals, and humans. Possible impacts on various life forms due to genetic alteration.

Prerequisite: a bachelor's degree in an area of science or permission of the chairperson.

757G Geomorphic Processes

30 hours lecture, 30 hours laboratory; 3 credits

Processes involved in the development of terrestrial, littoral, submarine morphology. Laboratory work in geological, statistical, photogrammetric methods used in geomorphic analysis.

Prerequisite: permission of the chairperson.

769G Geochemistry of Soils

45 hours; 3 credits

An examination of the physical chemistry of soils including soil mineralogy (formation, relative stability, ion exchange properties) and surface chemistry.

770G Principles of Geochemistry

45 hours; 3 credits

Chemical processes involved in the development of the earth and the distribution of the elements in the earth's crust, atmosphere, and ocean.

771G Geochemistry

30 hours lecture, 60 hours laboratory; 4 credits

Origin of the elements; age determination; implications of isotope ratio variations. Brief survey of some aspects of the chemistry of the atmosphere, hydrosphere, lithosphere. Laboratory experiments in counting, tracer, activation analysis techniques. This course is the same as Chemistry 741G.

773G Low Temperature Geochemistry

45 hours; 3 credits

Chemical equilibria in aqueous systems and at low temperature. Natural processes controlling the composition of streams, lakes, the ocean, and near-surface groundwaters; impact of biological systems and human activities. Water in the geological cycle, applications to weathering, sedimentary processes, diagenesis, and ore formation.

Prerequisite: Geology 770G or permission of the chairperson.

790.2G Seminar

30 hours each term; 2 credits each term

Selected aspects of geology. Areas not directly covered in regular courses. Use of original sources.

Prerequisite: 10 credits in graduate courses in geology.

790.3G Seminar

45 hours each term; 3 credits each term

Selected aspects of geology. Areas not directly covered in regular courses. Use of original sources.

Prerequisite: 10 credits in graduate courses in geology.

795.1G Thesis Research

Hours to be arranged; 1 credit

Research for master's thesis supervised by a faculty member. No more than 3 credits in Geology 795.1G–795.3G may be counted toward the degree. Credit is not earned until the thesis is accepted.

Prerequisite: permission of the chairperson.

795.2G Thesis Research

Hours to be arranged; 2 credits

Research for master's thesis supervised by a faculty member. No more than 3 credits in Geology 795.1G–795.3G may be counted toward the degree. Credit is not earned until the thesis is accepted.

Prerequisite: permission of the chairperson.

795.3G Thesis Research

Hours to be arranged; 3 credits

Research for master's thesis supervised by a faculty member. No more than 3 credits in Geology 795.1G–795.3G may be counted toward the degree. Credit is not earned until the thesis is accepted.

Prerequisite: permission of the chairperson.

The following courses are inactive and will be offered only if there is sufficient demand:

710G Structural Geology**711G Rock Mechanics****712G Geotectonics****718G Field Geology****721G Industrial Mineralogy****722G X-ray Diffraction Analysis****723G Advanced Research Methods in Geology****724G Igneous Petrology****726G Metamorphic Petrology****732G Paleoecology****743G Sedimentary Petrology****744G World Stratigraphy****748G Contaminant Hydrogeology****749G Well Hydraulics****752G Map Interpretation****753G Photogeology****754G Pleistocene Geology****759G Global Biogeochemical Change****760G Natural Resources: Metallic Ores****761G Natural Resources: Non-Metallic Ores****762G Ore Microscopy****763G Natural Resources: Uranium****764G Natural Resources: Geothermal Energy****765G Mineral Exploration and Economic Feasibility****766G Geological Application of Remote Sensing****772G High Temperature Geochemistry****774G Physical Geochemistry****775G Marine Geology****776G Marine Geochemistry****777G Quantitative Treatment of Geological Data****785G Natural Resources: Petroleum****786G Natural Resources: Coal****789G Physical and Chemical Evolution of the Terrestrial Planets**

Health and Nutrition Sciences

Office: 4123 Ingersoll Hall
Telephone: 951-5026, 951-5027, 951-5028

Chairperson: Leslie S. Jacobson

Deputy Chairperson, Division of Graduate Studies:
Kathleen V. Axen (Nutrition)

Professors: Axen, Friedmann, Greene, Jacobson, Levin, Mirotnik, Oppenheimer;

Associate Professors: Antoniello, Eastwood, Greenberg, Grommet, Hauck-Lawson, Schnoll, Sirota;

Assistant Professors: Grassman, Koizumi, Stayton, Weston.

The Department of Health and Nutrition Sciences offers a master of public health degree program in community health with concentrations in community health, health care management, and health care policy and administration, a master of arts degree program in community health with concentrations in thanatology and in community health education, a master of science degree program in nutrition, and a master of science in education degree program in health and nutrition sciences: health teacher (all grades). The M.P.H. in community health is accredited by the Council on Education in Public Health (CEPH). The Dietetic Internship is accredited by the American Dietetic Association (ADA).

The master of science degree program in computer science and health science (cosponsored by the Department of Computer and Information Science) is no longer accepting new students.

Note: Students accepted into the M.A. program under its former structure should consult the 1995–1998 Graduate Bulletin for the degree requirements. Students admitted into the M.A. program after 1998 will be limited to the concentration in thanatology as outlined below.

M.P.H. in community health HEGIS code 1214

Matriculation requirements

Applicants must offer at least 18 undergraduate credits in acceptable health or related courses, a GPA in the major of at least 3.00, and a minimum 2.85 overall GPA or a minimum 3.00 GPA in health and nutrition sciences courses taken as a nonmatriculated student. Applicants must have experience in a health-related field and must submit a statement of academic interests and goals. Applicants also must submit results of the Graduate Record Examination or equivalent standardized professional admission examination. An interview may be required.

General matriculation and admission requirements of the Division of Graduate Studies are in the section "Admission."

Degree requirements

Forty-six credits are required for the degree.

Students must complete Health and Nutrition Sciences 740X, 761X, 764X, 770X, 771X, 776X, 778.1X, 791.1X.

Students must receive a grade of at least B in each of these eight core courses; courses may be repeated if necessary.

In addition, students must complete one of the following three concentrations of study:

Community health concentration: Students in this concentration must choose their remaining courses from courses numbered Health and Nutrition Sciences 700X and above unless they receive permission from the deputy chairperson to substitute a specific course.

Health care management concentration: All of the following: Health and Nutrition Sciences 772.2X, 772.3X, 772.5X, 775.1X, and electives from courses numbered Health and Nutrition Sciences 700X and above unless they receive permission from the deputy chairperson to substitute a specific course.

Health care policy and administration concentration (offered in cooperation with the Department of Political Science): Political Science 731X, 740X and two of the following: Health and Nutrition Sciences 772.2X, 772.3X, 772.5X, 775.1X.

Students in the health care policy and administration concentration must choose their remaining courses from the following list unless they receive permission from the program director or deputy chairperson to substitute specific courses: Health and Nutrition Sciences 767X, 772.2X, 772.3X, 772.5X, 773X, 777X, 781X, 782X; Political Science 715X, 723X, 724G, 734X, 747X, 748X, 772X, 776X.

Students with advanced preparation may substitute other courses for required courses with the permission of the department graduate committee.

In addition, students must submit either an acceptable thesis or an acceptable master's paper.

Students electing to submit a thesis must complete Health and Nutrition Sciences 791.2X and 780X. Information about the thesis is in the section "Academic Regulations and Procedures."

Students electing to complete a master's paper must complete Health and Nutrition Sciences 791.3X with a grade of B or better, and then one of the courses numbered 797.1X through 797.9X in which the master's paper will be written. The grade for the course will be the same as the grade for the master's paper. The student must earn a grade of B or better for a master's paper to be acceptable. The student is not allowed to take 791.3X more than twice, and may only take one of the courses numbered 797.1X through 797.9X.

Courses in the Health and Nutrition Sciences Department offered toward the degree must be 700-level courses.

The program of study must be approved by the department.

M.A. in community health HEGIS code 1214

Matriculation requirements

Applicants must offer at least 18 credits in acceptable health-related courses. Experience in a health-related field is required for the Thanatology concentration.

A course in statistics in a health-related field is required for the Community Health Education concentration.

Applicants must submit a statement of academic interests and goals.

The department may interview applicants for admission.

General matriculation and admission requirements of the Division of Graduate Studies are in the section "Admission."

Degree requirements

Thirty-three to thirty-six credits are required for the degree. Students must complete one of the following two concentrations of study: Community Health Education (33–36 credits) or Thanatology (33 credits).

Community health education concentration. Required courses (27 credits): Health and Nutrition Sciences 758X, 759X, 761X, 764X, 771X, 772.2X, 775.1X, 777X, and 791.1X. Elective courses (3–12 credits): Students must complete 3–12 credits chosen from 700-level courses after consultation with the deputy chairperson.

Thanatology concentration. Required courses (24 credits): Health and Nutrition Sciences 744.5X, 754X, 760X, 762X, 773X, 774.5X, 784.5X, 791.1X.

Students with advanced preparation may substitute other courses for required courses with the permission of the department graduate committee.

Exit requirements. Students matriculated in the community health education concentration are required to pass a comprehensive examination administered by the Health and Nutrition Sciences Department, or submit an acceptable master's thesis or master's paper. Students electing to complete a comprehensive examination must complete 36 credits.

Students matriculated in the thanatology concentration are required to submit either an acceptable thesis or an acceptable master's paper.

Students electing to submit a thesis must complete Health and Nutrition Sciences 780X and 791.2X. Information about the thesis is in the section "Academic Regulations and Procedures."

Students electing to complete a master's paper must complete Health and Nutrition Sciences 791.3X with a grade of B or better; and then one of the courses numbered 797.1X through 797.9X in which the master's paper will be written. The grade for the course will be the same as the grade for the master's paper. The student must earn a grade of B or better for a master's paper to be acceptable. The student is not allowed to take 791.3X more than twice, and may only take one of the courses numbered 797.1X through 797.9X.

Courses in the Health and Nutrition Sciences Department offered toward the degree must be 700-level courses.

The program of study must be approved by the department.

Students interested in certification as a death educator (CDE) or grief counselor (CGC) may use the Health and Nutrition Sciences internship program that partially fulfills the

requirements of the National Certification Board of the Association for Death Education and Counseling.

Community Health Education students interested in national certification as a Certified Health Education Specialist (CHES) may take the examination administered by the National Commission for Health Education Credentialing, Inc.

M.S. in nutrition HEGIS code 1306

Matriculation requirements

Applicants must offer undergraduate or graduate courses in general biology, physiology, general chemistry, organic chemistry, nutrition, biochemistry or nutritional chemistry, statistics, and medical nutrition therapy.

General matriculation and admission requirements of the Division of Graduate Studies are in the section "Admission."

Degree requirements

Thirty to 39 credits are required for the degree.

Students must complete the following required core courses: Health and Nutrition Sciences 706X, 715X, 716X, 718.5X, and 791.1X. Students must receive a grade of at least B in each of these five core courses in order to qualify for the comprehensive examination or thesis; courses may be repeated if necessary.

A minimum of 15 additional credits is required. Students may choose among the following courses: Health and Nutrition Sciences 705X, 706.5X, 709X, 712X, 713X, 713.1X, 713.5X, 714X, 716.1X, 717X, 719X, 720X, 721X, 749X, 762X, 771X, 777X, 779X. The program of study must be approved by the department.

Students interested in the Dietetic Internship (DI) accredited by the American Dietetic Association must take Health and Nutrition Sciences 716X, 716.1X, and two additional graduate courses in nutrition before beginning the DI. The DI consists of Health and Nutrition Sciences 720X, 721X, 722.1X, and 722.2X. Separate applications must be made to the DI and to the M.S. program in nutrition.

Students must pass a comprehensive examination or submit a thesis acceptable to the department. Students who choose to write a thesis must complete Health and Nutrition Sciences 780X. Information about the requirements for the comprehensive examination and thesis is in the section "Academic Regulations and Procedures."

Dietetic Internships (DI)

The American Dietetic Association accredited Dietetic Internship (DI) at Brooklyn College is a one-year part-time program that provides the supervised practice experience required to sit for the Registered Dietitian (R.D.) examination. Students must be enrolled in the M.S. in nutrition program to be eligible for the DI, and they must file a separate application for the DI. Application to the DI is through the American Dietetic Association's matching program. Contact the DI program director for details. The program enables students

to apply theory and research to practice in clinical, community, and food service settings, thereby enriching their education and preparing them to make significant contributions to and rapid advancement in the profession.

M.S. in computer science and health science HEGIS code 0799

Matriculation requirements

Applicants must offer at least 18 credits in undergraduate or graduate courses in health and nutrition sciences and/or health-related fields.

General matriculation and admission requirements of the Division of Graduate Studies are in the section "Admission."

Degree requirements

Thirty to 52 credits are required for the degree.

Students must complete courses in Group I and Group II.

Group I: All of the following: Computer and Information Science 601X, 604.IX, 615X, 622X; and Mathematics 607X and 652X.

Students with some background in computer and information science and statistics (either academic or professional) may apply to the Department of Computer and Information Science for waivers of specific courses. Normally, students with a strong undergraduate background in computer and information science will be exempt from all courses in Group I. Students exempt from Group I courses will not be required to take other courses to make up any specific number of credits.

Group II: All of the following:

1. One course chosen from Computer and Information Science 713X, 714X, 763X, 764X, and 765X;
2. Two courses chosen from Computer and Information Science 710X, 717.IX, and 757X;
3. One additional Computer and Information Science course numbered 700 or above;
4. Health and Nutrition Sciences 771X, 775.IX, and 791.IX;
5. One additional Health and Nutrition Sciences course numbered 700 or above;
6. Computer and Information Science 777X or Health and Nutrition Sciences 777X.
7. Students must also complete one of the following:
 - a) Computer and Information Science 799.1G and 799.2G and a thesis acceptable to the Department of Computer and Information Science; or
 - b) Health and Nutrition Sciences 780X and a thesis or project acceptable to the Department of Health and Nutrition Sciences; or
 - c) Pass a written comprehensive examination.

M.S. in Ed., health and nutrition sciences: health teacher (all grades) HEGIS code 0837

The profession of teacher education is licensed by the New York State Education Department. Therefore, program

requirements are subject to change. All students should consult with the School of Education for the current requirements.

Matriculation requirements

Applicants must offer 18 credits in courses in the health sciences or equivalent courses in other fields.

Applicants must also offer (a) or (b) or (c):

(a) New York State Initial Certification in teaching health for all grades;

(b) courses in education that meet the New York State standards for the pedagogical core. These courses include study of the following: history of education and philosophy of education or principles of education or educational sociology; educational psychology or developmental psychology or psychology of adolescence or adolescent development; classroom management; teaching students with special needs and English language learners; 6 credits in literacy and language acquisition; curriculum development and methods of assessing student learning; uses of technology in the classroom; methods of teaching health for all grades; 100 hours of fieldwork; 40 days or 300 hours of student teaching of health in all grades or one year of full-time teaching of health in all grades; and submission of scores on the L.A.S.T.;

(c) an undergraduate degree with an appropriate major or appropriate course work (including introduction to health, human physiology, health counseling, health appraisal or the physiology of health and disease, occupational health or first aid, evaluation or statistics, human sexuality, health and human ecology or environmental health, and drugs and society), and submission of scores on the L.A.S.T.

Applicants must have a minimum undergraduate grade point average of 3.00. A minimum average of 3.00 in graduate courses is required to maintain matriculation.

Applicants who have not completed all the specific course requirements are given individual consideration and may be admitted with conditions, with the approval of the head of adolescence education and special subjects in the School of Education and the chairperson of the Department of Health and Nutrition Sciences.

International applicants for whom English is a second language are required to pass the Test of English as a Foreign Language (TOEFL) with a score of 550 before being considered for admission.

Applicants must consult matriculation requirements for adolescence education and special subjects in the School of Education section of the Bulletin, and should see the head of adolescence education and special subjects for counseling.

General matriculation and admission requirements of the Division of Graduate Studies are in the section "Admission."

Degree requirements

A minimum of 30 credits is required for the degree.

Students must complete 18 credits in courses in health sciences in the Department of Health and Nutrition Sciences. Health and Nutrition Sciences 747X and 791.IX are required.

Students must also complete 12 credits in courses in the School of Education. Students take different education courses and sequences of courses depending on their previous course work, teaching experience, and the certificates they hold. Students who possess Initial Certification in teaching health must complete 9 credits in Group II and 3 credits in Group III, below. Students who do not possess Initial Certification in teaching health or equivalent course work and teaching experience or who are teaching but do not possess Initial Certification in teaching health must have the appropriate course work and credits in the subject area and must complete the appropriate courses in Group I before taking courses in Groups II and III, below. Students pursuing Initial Certification in teaching health must take ED 792.2X, Teaching Writing Across the Curriculum, in Group III.

Students who already have a master's degree but wish Initial Certification in teaching health must take appropriate courses in Group I and Group III below, as determined at the time of matriculation by the head of adolescence education and special subjects in the School of Education.

Group I: ED 742X, ED 792.IX, ED 763.I6T, ED 764.5T, ED 723.I6T, ED 764.5T.

Group II: ED 742.2T, ED 722.I6T, ED 724.I6T.

Group III: ED 716X, ED 721.I6T, ED 726.IX, ED 731.3T, ED 751.2T, ED 751.1T, ED 784.2X, ED 792.2X, ED 792.4X/ENG 779X, ED 796X/THE 741, ED 799.5X.

Students must pass a comprehensive examination or submit a thesis acceptable to the Health and Nutrition Sciences Department. Students who choose to write a thesis must complete Health and Nutrition Sciences 780X. Information about requirements for the comprehensive examination and the thesis is in the section "Academic Regulations and Procedures." Courses offered toward the degree must be 700-level courses.

The program of study must be approved early in the first semester by the chairperson or deputy chairperson of the Health and Nutrition Sciences Department and the head of adolescence education and special subjects in the School of Education.

Courses

Courses numbered 600–699 are intended for students who are candidates for degrees in other disciplines.

To register for courses numbered 700 and higher, students who offer fewer than 18 undergraduate credits in health and nutrition sciences must have permission of the deputy chairperson before registration.

Unless a prerequisite is specific, students may apply graduate or undergraduate courses toward fulfillment of that prerequisite.

The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

660.IX Biological Basis for Healthful Living

30 hours plus conference; 3 credits

Information from biological and related physical sciences as a foundation for understanding the applied health sciences. Commonly held concepts and misconceptions in light of scientific principles. (Not open to students who have completed Health Science 660.IX.)

665T Health Sciences in Elementary School

30 hours plus conference; 3 credits

Health concepts. Relationships between well-being and learning. Special problems. Supplementary teaching materials and integration with other curriculum areas. (Not open to students who have completed Health Science 665T.)

Prerequisite: a course in personal and community health.

667X Drug Education in the School Curriculum

30 hours plus conference; 3 credits

Drug abuse. Responsibility of the teacher, principal, other school personnel in implementing drug abuse prevention programs. Related research summarized and evaluated. (Not open to students who have completed Health Science 667X.)

704X Trauma and Traumatic Grief

30 hours plus conference; 3 credits

A study of trauma and traumatic grief. Evaluation of assessment tools, treatment modalities, and programs of prevention. Identification of the factors influencing the quality of care provided to a traumatized griever. Critique of trauma research study designs and findings.

705X Nutrition and World Food Problems

45 hours; 3 credits

National and international nutritional conditions. Government problems, issues, policies concerning nutritional status of individuals and population groups. Regulation of food production and distribution in developing countries.

Prerequisite: a course in nutrition or permission of the chairperson.

706X Community Nutrition

45 hours; 3 credits

Community and public health nutrition with focus on factors affecting food consumption of a community and nutritional problems of select groups. Consumption patterns, assessment techniques, intervention programs, and evaluation of programs (federal, state, and local).

Prerequisite: a course in human nutrition and a course in life cycle, developmental or geriatric nutrition, or permission of the chairperson.

706.5X Geriatric Nutrition

45 hours; 3 credits

Recent knowledge of nutrition and human aging. Special emphasis on interactions of physiological stages, age, lifestyle, health, disease, and nutrition. Examination of research findings focusing on the relationship of nutrition to the structural and functional changes associated with the aging process.

Prerequisite: a course in nutrition or permission of the chairperson.

709X Nutrition and Behavior

45 hours; 3 credits

The relationship between nutrient deprivation during critical growth periods and interactional and learning deficits and maladaptive behavior patterns. Behavioral disorders and nutrient needs and idiosyncrasies. Psychodietetics: determinants of psychological reactions to foods and evolving food behavior patterns.

Prerequisite: one course in psychology and a course in human nutrition and a course in physiology.

712X Cultural Aspects of Foods

45 hours; 3 credits

Foodways, the study of relationships of food and culture. Ethnic, geographic, economic, social, religious influences on food habits and practices of individuals and families.

Prerequisite: a course in food science or nutrition or permission of the chairperson.

713X Advanced Experimental Foods

15 hours lecture, 60 hours laboratory; 3 credits

Research techniques in food science and their application to the study of selected problems in food marketing, preparation, service, storage. Opportunity for students to conduct individual experimental projects.

Prerequisite: a minimum of 10 credits in courses in food science and nutrition and two laboratory courses in biology and/or chemistry or permission of the chairperson.

713.IX Recent Developments in Foods

45 hours; 3 credits

Review and evaluation of recent trends, issues, research in product development, food processing, distribution. Modern food technology, application, use.

Prerequisite: 6 credits in courses in foods or permission of the chairperson.

713.5X Organizational Management of Food

45 hours; 3 credits

Decision-making skills involved in the field of food service management. Application of management theories to control of food costs, work simplification techniques, and management accountability in the food service system.

Prerequisite: completion of the core requirements in the program in nutrition.

714X Recent Developments in Nutrition

45 hours; 3 credits

Critical examination of current literature and scientific research in nutrition. Impact of current nutritional developments relating to individual, family, and community well-being.

Prerequisite: a graduate course in nutrition and a course in physiology and a course in statistics or permission of the chairperson.

715X Nutritional Biochemistry

45 hours; 3 credits

Emphasis on homeostatic mechanisms and hormonal controls of intermediary metabolism on a cellular level. Select topics related to the metabolic diseases and inborn errors of metabolism.

Prerequisite: a course in advanced nutrition and a course in nutritional chemistry or biochemistry or permission of the chairperson.

716X Nutritional Aspects of Disease

45 hours; 3 credits

Changes in requirements and utilization of nutrients; nutritional status of the individual during pathological states. Disease, malnutrition, and environmental pollution assaults on nutrient metabolism. Methodology and interpretation of recent clinical nutrition research.

Prerequisite: a course in diet therapy or permission of the chairperson.

716.IX Assessment Techniques and Nutritional Care

45 hours; 3 credits

Study of the components of nutritional assessment as the initial step in nutrition care process. Emphasis on comparative analysis of dietary intake methods, interpretation of clinical laboratory values, evaluation of anthropometric and body composition methods, retrieval of medical history/physical examination data.

Prerequisite: a course in diet therapy.

718.5X Micronutrients

45 hours; 3 credits

Physiological regulation of metabolism of vitamins and minerals; effects of deficiencies and excesses.

Prerequisite: a course in nutrition and a course in biochemistry; or permission of the chairperson.

719X Developmental Nutrition

45 hours; 3 credits

Effects of nutritional factors on development from prenatal growth to adolescence. Topics include: placental transport of nutrients, causes of congenital defects, breast feeding vs. bottle feeding, factors affecting rate of growth and age at puberty, effects of nutritional deficiencies and excesses,

and the relationship of nutrients to morphogenetic or biochemical processes.

Prerequisite: a course in advanced nutrition and a course in physiology.

720X Seminar in Nutritional Practice

30 hours plus conference; 3 credits

Concepts and methods essential to the work of a practicing nutritionist. Nutritional assessment, counseling, evaluation, management, instruction, organization, and health promotion techniques.

Prerequisite: completion of 12 graduate credits in courses in nutrition.

Corequisite: Health and Nutrition Sciences 722.IX.

721X Seminar in Clinical Applications of Nutrition Research

30 hours plus conference; 3 credits

The importance of the scientific literature in evaluating clinical techniques. Use and interpretation of this literature. Review of relevant research techniques. Examination of recent findings in topics of current clinical interest and their relation to clinical practice.

Prerequisite: completion of 12 graduate credits in courses in nutrition.

Corequisite: Health and Nutrition Sciences 722.2X.

722.IX Fieldwork in Dietetic Practice I

450 hours fieldwork; 3 credits

Supervised experience in medical nutritional therapy, food service management, and community nutrition. Activities and assignments developed by the college faculty. Application of nutritional concepts to individuals and groups. Design of diets, nutrition counseling, management of food services, provision of nutrition education in community service.

Prerequisite: completion of 12 graduate credits in courses in nutrition and acceptance into the department's Dietetic Internship.

Corequisite: Health and Nutrition Sciences 720X.

722.2X Fieldwork in Dietetic Practice II

450 hours fieldwork; 3 credits

A continuation of supervised fieldwork experience, specified activities, and assignments of Health and Nutrition Sciences 722.IX.

Prerequisite: Health and Nutrition Sciences 722.IX.

Corequisite: Health and Nutrition Sciences 721X.

740X Introduction to Public Health

30 hours plus conference; 3 credits

Introduction to the field of public health through an examination of its theories, principles, methods, and history. Overview of national and international health and health services. Introduction to public health resources and written presentation of critical analysis. The professional discipline of public health. Ethical issues in public health.

744.5X Bereavement

30 hours plus conference; 3 credits

Theoretical concepts of grief and bereavement. The impact of mourning on the bereavement process. Health implications of incomplete mourning and pathological bereavement. The role of the health care professional and related personnel in providing care. Research to improve care. (Not open to students who have completed Health and Nutrition Sciences 744X or 774X.)

747X The Family and Personality Development

45 hours; 3 credits

Influence of the family on the individual. Personality development and family interrelationships. Consideration of major problems of adjustment in each phase of the family life cycle. Fall term.

Prerequisite: a course in family relationships.

749X Aging: A Study of Needs and Services

45 hours; 3 credits

A study of the needs and services to the aged, emphasizing family relationships, food, nutrition, health, economic stability, and security.

754X Children and Death

30 hours plus conference; 3 credits

The child's concept of death. Typical childhood coping patterns in response to death of self, family member, friend. Needs of the terminally ill child, the family, and the caregiver. Alternative care settings. Available resources and supports for the health professional. (Not open to students who have completed Health Science 754X.)

758X Foundations of Community Health Education

30 hours plus conference; 3 credits

Introduction to the community health education profession. Expectations of a professional, professional development, and overall mission of public health. Discussion of the theoretical basis for the community health education profession. Introduction to a community health education program planning and evaluation model.

759X Program Planning and Evaluation in Community Health Education

30 hours plus conference; 3 credits

Continued development and application of community health education program assessment, planning, implementation, and evaluation methods. Critique of existing community health education programs for promoting critical thinking and analytic skills.

Prerequisite: Health and Nutrition Sciences 758X.

760X Health Crisis Intervention

30 hours plus conference; 3 credits

Relationships among health, emotion, destructive behavior. Development of sensitivity to behavior patterns leading to destructive acts. Role of the health professional in understanding crisis situations. Agencies designed to assist in health crises. (Not open to students who have completed Health Science 760X.)

Prerequisite: Health Science 762X or a course in health counseling.

761X The Nature of Health Science

30 hours plus conference; 3 credits

Public health concepts and methods from social and behavioral sciences relevant to the identification and solution of public health problems. Physiological, sociological, psychological, and cultural factors as determinants of health status, attitudes and behavior. (Not open to students who have completed Health Science 761X.)

762X Health Counseling

30 hours plus conference; 3 credits

Application of principles and methods of counseling to health problems. Case studies, identification of problems, techniques of interviewing. (Not open to students who have completed Health Science 762X.)

Prerequisite: a course in personal and community health.

764X Internship and Field Experience Seminar in Community Health

30 hours seminar and fieldwork plus conference; 3 credits

Supervised individual projects in a school-related program or health agency. Weekly seminars. (Not open to students who have completed Health Science 764X.)

Prerequisite: a course in school health or public health.

764.5X Internship in Public Health II

150 hours; 3 credits

Supervised internship in a public health setting. Continuation of Health and Nutrition Sciences 764X.

Prerequisite: Health and Nutrition Sciences 764X and matriculation in the M.P.H. program and permission of the chairperson.

767X Health Issues of the Urban Society

30 hours plus conference; 3 credits

The effect of poverty on the health behaviors of people living in urban and suburban areas. Analysis of current public health problems in the context of race, class and gender. The effects of transnational migration on health. (Not open to students who have completed Health Science 767X.)

Prerequisite: Health and Nutrition Sciences 761X.

768X School and Community Health Programs

30 hours plus conference; 3 credits

Analysis of health needs and programs. Survey of services available to students and schools through public and volunteer agencies. Exploration of ways to improve use of facilities and community cooperation for greater protection and promotion of community health. (Not open to students who have completed Health Science 768X.)

Prerequisite: Health and Nutrition Sciences 761X.

769X Problems of Drugs in Contemporary Society

30 hours plus conference; 3 credits

Drug traffic. Community cooperation in preventing and treating drug abuse. Legal factors and crime relationships; physiological, psychological, sociological aspects of drug abuse. Guidelines for drug abuse prevention and programs. Resources to support such programs in schools and communities. Field trips. (Not open to students who have completed Health Science 769X.)

769.IX Colloquium on Drug Abuse in Schools

30 hours plus conference; 3 credits

Contemporary theories and practices related to establishing, organizing, administering, and evaluating meaningful drug abuse prevention programs in schools. Discussion of problems and exploration of the role of sensitivity training. Independent projects on drug abuse programs. (Not open to students who have completed Health Science 769.IX.)

769.2X Alcohol, Alcoholism, and Health

30 hours lecture plus conference; 3 credits

Examination of the effects of alcoholism on the United States health care system; the effects of alcohol on individual and community health. An analysis of etiology, treatment, and rehabilitation models. Issues with regard to prevention strategies and the influence of laws on alcohol abuse. (Not open to students who have completed Health Science 769.2X.)

770X The United States Health Care System

30 hours plus conference; 3 credits

Examination of the development of modern medical systems; description and discussion of the organization of the agencies and personnel constituting the health care system; the planning, administration, management, evaluation, and policy analysis of health programs; investigation of the health legislative process and institutions that attempt to influence the process. Study of the principles and programs involved in the financing of health care services; critical analysis of current criticisms of the modus operandi of the health care system. (Not open to students who have completed Health Science 770X.)

771X Epidemiology

30 hours plus conference; 3 credits

Principles and application of epidemiological analysis, illustrations of incidence, distribution, multiple determinants, and control of disease. Methods of investigation. Sources, presentation, and interpretation of data. (Not open to students who have completed Health Science 771X.)

Prerequisite: an introductory course in epidemiology or an equivalent course.

772.2X Planning, Strategic Analysis, and Organizing of Health Care Services

30 hours plus conference; 3 credits

Analysis of organization theory relevant to health care management. Study of planning, strategic analysis, and marketing in health care. Investigation of health care management information systems. Analysis of the concepts and methods of management decision making and organizational development in health organizations. (Not open to students who have completed Health and Nutrition Sciences 772.1X.)

Prerequisite: a course in health care administration or appropriate employment in health care administration.

772.3X Health Care Financial Management

30 hours plus conference; 3 credits

Study of the basic principles of health-care accounting. Analysis of health-care financial statements and responsibility-accounting techniques. Evaluation of methods of managing working capital, budgeting, using cost information in decision making, controlling costs, and financing capital projects in the health-care setting. Analysis of approaches to pricing, rate setting, and cost control in the health-care reimbursement environment.

772.5X Health Economics

30 hours plus conference; 3 credits

Economic analysis of the structure, performance, and government policy in the health care sector of the economy. Demand and supply of health care services, the role of third party payers, and the public policy debate over government reform of the health care system. Microeconomic, econometric, and political philosophy concepts relevant to issues of justice in health care. This course is the same as Economics 772X.

773X Health and Medical Dilemmas

30 hours plus conference; 3 credits

Dilemmas resulting from the practice of the health sciences: conflicting needs of the practitioner, client, health care system, community. Critical evaluation of proposed solutions offered by the professions, government, community. Case study evaluations. (Not open to students who have completed Health Science 773X.)

774.5X The Health Care Provider and Thanatological Counseling

30 hours plus conference; 3 credits

Theory and practice of counseling the dying patient and the bereaved. Focus on personal skill development in anticipatory bereavement and postmortem bereavement counseling. Examination of group support, self-help, and individual intervention strategies. Research and evaluation of support programs and techniques. (Not open to students who have completed Health and Nutrition Sciences 774X.)

775.1X Human Resources Management in Health Care

30 hours plus conference; 3 credits

Theoretical analysis of techniques for leadership and motivation of professional and nonprofessional health care employees. Study of methods for managing work groups and minimizing conflict in health care institutions. Examination of health personnel management. Evaluation of employee communications in health care. Analysis of workplace negotiation, with special reference to health care labor negotiations. (Not open to students who have completed Health and Nutrition Sciences 775X.)

Prerequisite: a course in health care management or appropriate employment in health care management.

776X Environmental Health in the Urban Community

30 hours plus conference; 3 credits

Major environmental pollutants, their sources, effects, and control. Community environments and their special problems: housing, recreation areas, workplaces, and health institutions. Bases for city, state, and federal regulations. Nature and limitations of appropriate research data. (Not open to students who have completed Health Science 776X.)

777X Computer Applications in Health Sciences

45 hours; 3 credits

Use of computer in health-related fields. Understanding unique theoretical and practical applications to health science research, education, and clinical practice. Course will include projects tailored to the interests of the individual students. This course is the same as Computer and Information Science 777X.

Prerequisite: one 700-level course in health and nutrition sciences and one 700-level course in computer and information science.

778.1X Evaluation in Health and Nutrition Sciences I

30 hours lecture, 30 hours laboratory, plus conference; 4 credits

Application of evaluation techniques for community health and nutritional professionals. Application of tools to evaluate health and nutritional status, knowledge, attitudes,

and behavior for individuals and populations. Vital statistics. Use of computer programs to analyze and interpret health and nutrition data. (Not open to students who studied these subjects as a special topic in Health Science 792X or who have completed Health Science 778X.)

778.2X Evaluation in Health and Nutrition Sciences II

30 hours lecture, 30 hours laboratory, plus conference; 4 credits

Application of evaluation techniques for community health and nutrition professionals. Design of tools to evaluate health and nutritional status, knowledge, attitudes, and behavior for individuals and populations. Multivariate techniques for assessment of health data including survival analysis, multiple regression, multivariate analysis of variance, discriminant analysis, logistic regression, and factor analysis. Use of computer programs to analyze and interpret health and nutrition data with these techniques.

Prerequisite: Health and Nutrition Sciences 778.1X or permission of the chairperson.

779X Nutrition and Exercise

30 hours plus conference; 3 credits

Exploration of human nutritional requirements of exercise; the significance of intermediary metabolic pathways and the effect of dietary manipulation on exercise performance. (This course is the same as Physical Education 779X.)

Prerequisite: a course in human or animal physiology and a course in exercise physiology or biochemistry.

780X Thesis Research

Hours to be arranged; 3 credits

Research for master's thesis supervised by a faculty member. Credit is not earned until the thesis is accepted. Students register for this course only once. (Not open to students who have completed Health Science 780X and Home Economics 783T.)

Prerequisite: permission of the deputy chairperson.

781X Law and Public Health

30 hours plus conference; 3 credits

An analysis of public health policy and legal thinking in the context of the U.S. legal system, and the roles of the branches of government in creating, administering, and enforcing the health laws. Examination of basic health law concepts and practices in the health industry. Concepts of institutional and individual responsibility. The focus is upon such areas as legal reasoning, sources of health laws, regulations, legal rights to health, standards, licensure, malpractice, and litigation.

782X International Health

30 hours plus conference; 3 credits

Comparative analysis of health problems in developing and developed nations. Exploration of social, cultural, political,

and economic determinants of health in developing countries. Examination of the role of multilateral and bilateral assistance programs in influencing changes in health status in developing nations.

783X Occupational Health in the Health Care Industry

30 hours plus conference; 3 credits

Demographics of health care workers. Common physical, chemical, biological, and psychosocial hazards in the health care environment and their effects. Nature of occupational injuries and illnesses. Control and regulation of workplace hazards. Regulatory agencies.

784.5X Principles in the Care of the Terminally Ill

30 hours plus conference; 3 credits

Needs of the dying patient and family. Clinical approaches to care of terminally ill patients and their families. Role of the hospice as an alternative-care setting. Techniques of pain management and palliative care. The role of the health care professional and related personnel in providing care. (Not open to students who have completed Health and Nutrition Sciences 774X or 784X.)

790.1X Internship I

90 hours; 3 credits

Supervised internship in a health or nutrition counseling setting similar to that in which the student expects to work. Interns are expected to participate in the complete range of position-defined responsibilities and to be supervised jointly by certified counseling personnel and a faculty adviser from the Department of Health and Nutrition Sciences.

Prerequisite: completion of 27 graduate credits in courses in health and nutrition sciences, including Health and Nutrition Sciences 762X and one of the following: Health and Nutrition Sciences 720X, 765X or 774.5X, and permission of the chairperson.

790.2X Internship II

90 hours; 3 credits

Continuation of Health and Nutrition Sciences 790.1X.

Prerequisite: Health and Nutrition Sciences 790.1X and permission of the chairperson.

790.3X Internship III

90 hours; 3 credits

Continuation of Health and Nutrition Sciences 790.2X.

Prerequisite: Health and Nutrition Sciences 790.2X and permission of the chairperson.

790.4X Internship IV

90 hours; 3 credits

Continuation of Health and Nutrition Sciences 790.3X.

Prerequisite: Health and Nutrition Sciences 790.3X and permission of the chairperson.

791.1X Research Seminar

30 hours plus conference; 3 credits

Examination of the stages of the research process, highlighting selected research designs and data collection techniques.

Application of the principles and methods of research to the critical analysis of the health and nutrition sciences literature.

Prerequisite: completion of two graduate courses in health and nutrition sciences, and a GPA of 3.00 (B) or better in graduate courses completed to date.

791.2X Research Seminar II

30 hours plus conference; 3 credits

Examination of quantitative and qualitative techniques appropriate for research in the health sciences. Class discussions of each student's efforts in developing a master's thesis. (Not open to students who are enrolled in or have completed Health and Nutrition Sciences 791.3X or one of the courses numbered 797.1X through 797.9X.)

Prerequisite: Health and Nutrition Sciences 791X or 791.1X, and a GPA of 3.00 (B) or better in graduate courses completed to date.

791.3X Research Seminar III

30 hours plus conference; 3 credits

Examination of quantitative and qualitative techniques appropriate for research in the health sciences. Class discussion of each student's effort in developing a master's paper. This course may be taken two times. (Not open to students who are enrolled in or have completed Health and Nutrition Sciences 791.2X.)

Prerequisite: Health and Nutrition Sciences 791.1X and a GPA of 3.00 (B) or better in graduate courses completed to date.

792X Special Topics

30 hours plus conference; 3 credits

Topical discussion of recent contributions in health science. Course content varies from term to term. (Not open to students who have completed Health Science 792X.)

795X Independent Reading

Minimum of 135 hours of independent work and conference; 3 credits

Reading, approved by a faculty adviser, in an area of health science. One or more written reports or a final examination. (Not open to students who have completed Health Science 795X.)

Prerequisite: matriculation for the M.S. in Ed. in health science or for the M.A. in community health; and permission of the deputy chairperson.

797.1X Master's Paper: Research on Health Behavior

30 hours plus conference; 3 credits

Critical analysis of the recent research on health behavior. Examination of theoretical models and empirical research

on health behavior. Students will be required to write a master's paper on this topic. Discussions of each student's master's paper in progress. (Not open to students who have completed Health and Nutrition Sciences 791.2X or any of the courses numbered 797.1X through 797.9X.)

Prerequisite: Health and Nutrition Sciences 791X or 791.1X, and 791.3X with a grade of B or higher; and a GPA of 3.00 (B) or better in graduate courses completed to date.

797.2X Master's Paper: Research in Medical Care Costs

30 hours plus conference; 3 credits

Analysis of the recent research on medical care costs. Examination of factors that cause, and of attempts to reduce, the rise in costs. Students will be required to write a master's paper on this topic. Discussions of each student's master's paper in progress. (Not open to students who have completed Health and Nutrition Sciences 791.2X or any of the courses numbered 797.1X through 797.9X.)

Prerequisite: Health and Nutrition Sciences 791X or 791.1X, and 791.3X with a grade of B or higher; and a GPA of 3.00 (B) or better in graduate courses completed to date.

797.3X Master's Paper: Research on Dilemmas in Health Care

30 hours plus conference; 3 credits

Examination of dilemmas resulting from the practice of the health sciences and medicine. Elucidation of social, legal, and ethical issues for patients, families, practitioners, and society. Students will be required to submit a master's paper on this topic. Discussions of each student's master's paper in progress. (Not open to students who have completed Health and Nutrition Sciences 791.2X or any of the courses numbered 797.1X through 797.9X.)

Prerequisite: Health and Nutrition Sciences 791X or 791.1X, and 791.3X with a grade of B or higher; and a GPA of 3.00 (B) or better in graduate courses completed to date.

797.4X Master's Paper: Research on Issues in Women's Health and Medical Care

30 hours plus conference; 3 credits

Analysis of research on factors affecting women's health and medical care. An evaluation of women's health as it is affected by social, cultural, political, and economic factors. Students will analyze these issues from medical, legal, and ethical perspectives. Students will be required to write a master's paper on a research topic in women's health. Discussions of each student's master's paper in progress. (Not open to students who are enrolled in or have completed Health and Nutrition Sciences 791.2X or any of the courses numbered 791.1X through 797.9X.)

Prerequisite: Health and Nutrition Sciences 791X or 791.1X, and 791.3X with a grade of B or higher; and a GPA of 3.00 (B) or better in graduate courses completed to date.

797.9X Master's Paper: Research on Adherence with Health Promotion/Disease Prevention and Treatment Regimens

30 hours plus conference; 3 credits

Critical analysis of the recent research on adherence to health-related regimens. Examination of theoretical models and empirical research on adherence. Students will be required to write a master's paper on this topic. Discussions of each student's master's paper in progress. (Not open to students who have completed Health and Nutrition Sciences 791.2X or any of the courses numbered 797.1X through 797.9X.)

Prerequisite: Health and Nutrition Sciences 791X or 791.1X, and 791.3X with a grade of B or higher; and a GPA of 3.00 (B) or better in graduate courses completed to date.

799X Independent Study

Minimum of 135 hours; 3 credits

Research project in a selected area of health science supervised by a faculty member. (Not open to students who have completed Health Science 799X.)

Prerequisite: matriculation for the M.S. in Ed. in health science or for the M.A. in community health; and permission of the deputy chairperson.

The following courses are inactive and will be offered only if there is sufficient demand:

765X Human Relations Training Workshop in Sex Education

766X Family Living and Sex Education

History

Office: 524 Whitehead Hall

Telephone: 951-5303, 951-5304

Deputy Chairperson, Division of Graduate Studies:

Jocelyn A. Wills

Deputy Chairperson, CLAS and SGS: Gunja SenGupta,

Professors: Anderson, Berger, Burrows, Gallagher,

Johnson, Kimmich, King, Schaar;

Associate Professors: SenGupta, Wills;

Assistant Professors: Meyer, Napoli, Remy.

The Department of History offers a master of arts degree program in history. The department also participates in the master of arts degree program, social studies teacher (7-12).

M.A. in history HEGIS code 2205

Matriculation requirements

Applicants must have completed at least 12 credits in advanced undergraduate courses in history or, with permission of the chairperson or graduate deputy, 12 credits in advanced undergraduate courses in history, economics, and political science.

Students admitted as matriculants in history must complete History 700X with a grade of A or B by the end of their second semester or they will lose matriculated status.

Students admitted as nonmatriculants must complete History 700X with a grade of A or B in order to achieve matriculated status in the Department of History.

General matriculation and admission requirements of the Division of Graduate Studies are in the section "Admission."

Degree requirements

Thirty credits in History Department courses are required for the degree.

The following courses are required:

History 700X with a grade of A or B. A student with an exceptionally strong undergraduate record in history may, with the permission of the chairperson or the graduate deputy, offer another course instead of 700X to satisfy both the matriculation and the degree requirements.

Five courses numbered from History 720X to History 760X. With the permission of the chairperson or the graduate deputy, two (2) of these courses may be replaced by additional colloquia and/or History 784G.

Two colloquia in history.

History 705G. Students with exceptionally strong undergraduate records may, with the prior approval of the chairperson or the graduate deputy, offer History 785G as a substitute for this course.

History 783G.

Recommendations

Students should consult the graduate deputy early in their course of study and each semester thereafter.

Students who intend to study toward a doctoral degree should have completed at least two years of college-level foreign language study.

Students who intend to study toward a doctoral degree should ascertain the matriculation requirements of the graduate school they plan to attend.

CUNY Ph.D.

The City University of New York offers a doctoral program in history. General information about CUNY Ph.D. programs is in the chapter "About Brooklyn College."

The History Department offers courses at Brooklyn College that may be credited toward the CUNY doctoral degree with permission of the executive officer of the doctoral program. For information about the courses, students should consult the executive officer of the doctoral program.

Courses

The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

700X Introduction to the Study of History

30 hours plus conference; 3 credits

Analysis of historical sources and of approaches to writing history. (Not open to students who have completed History 701.IX.)

World history

720.3X Main Currents in Contemporary World History

30 hours plus conference; 3 credits

The history of the main world regions and their interrelationship since 1945. Breakdown of the wartime alliance; confrontation between the West and the Soviet Union; the atomic age; the eras of the Cold War and peaceful coexistence; wars of national liberation and the new states of Africa and Asia. Historical contexts of modern revolutions and wars. Breakup of the Soviet Union; Persian Gulf War and the primacy of oil; the new nationalism and ethnic conflicts; the global economy and the silicon age.

European history

721X The Civilization of Medieval Europe

30 hours plus conference; 3 credits

Society, culture, and the economy of Western Europe from late antiquity to the early fourteenth century. Classical, Jewish, Christian, and Islamic interactions. Political ideas and institutions. The Germanic kingdoms. Varieties of lordship and community. Papal monarchy. The Crusades. Revival of urban culture. Medieval intellectual life, art, and architecture. (Not open to students who have completed History 721.IX or 721.2X.)

723.1X The Renaissance

30 hours plus conference; 3 credits

Development of the Italian Renaissance. Its effects on and importance for European countries beyond the Alps. Source materials, including examples from literature and art, are used to illustrate the significance of the Renaissance.

730X The Industrial Revolution of the Eighteenth and Nineteenth Centuries

30 hours plus conference; 3 credits

The early modern economic and social system. Changes in agriculture, demography, technology, work, family, and class structure to 1850. New energy sources and industrial materials, relations between science and industry, business organization, and social movements from 1850 to 1914.

731.1X The Enlightenment

30 hours plus conference; 3 credits

Development of Western thought from Locke to Kant. Its intellectual, political, and social aspects.

731.3X The Old Regime and the French Revolution

30 hours plus conference; 3 credits

Background and development of the French Revolution. The rise of Napoleon. Controversial problems of historical interpretation.

731.8X France from 1815

30 hours plus conference; 3 credits

A survey of the economic, social, political, and intellectual history of France from the close of the Napoleonic regime to the Fifth Republic, with emphasis on popular customs and daily living on the farms and in the cities; the revolutionary tradition; the lives of workers; the traditions of the middle class; the struggles of left and right.

737X The Coming of the Two World Wars

30 hours plus conference; 3 credits

The origins of World Wars I and II; diplomatic background, domestic causes, interpretations, historiography. The imperialist rivalries, military alliances, and nationalist conflicts before 1914. Nazi aggression and appeasement before 1939.

737.1X Europe Since 1945

30 hours plus conference; 3 credits

European politics and society from 1945 to the present. Emphasis on changes in European society brought about by the catastrophes of war and genocide: "deradicalization" of the right and left, the politics of memory, decolonization, the impact of the United States, the collapse of communism and the USSR, German reunification, European economic integration, and the Balkan wars.

738.2X History of Marxism

30 hours plus conference; 3 credits

Sources of Marxian thought. Development of "orthodox" and "revisionist" strands in Marxism until World War I.

Transmission to eastern Europe. Leninism and its appeal in Asia, Africa, and the Americas.

United States history

741.1X The Colonial Period

30 hours plus conference; 3 credits

Civilization of the British American colonies. Colonial intellectual trends. Intercolonial aspects of social development. Foundations of American nationality to 1763.

741.2X The American Revolution and the Constitution

30 hours plus conference; 3 credits

Political, social, and economic forces that accompanied the American Revolution. Nature of the critical period. Drafting and ratification of the Constitution.

741.5X Civil War and Reconstruction

30 hours plus conference; 3 credits

Scholarly interpretations of the U.S. Civil War; its memory; its influence on concepts of citizenship and states' rights. Slavery, race, and the "Peculiar South"; westward expansion; new forms of mass politics, and economic and cultural changes within northern society that shaped the antislavery movement. The impact of class, gender, and racial affiliations. Debates in Reconstruction historiography.

741.6X The Gilded Age and the Progressive Era

30 hours plus conference; 3 credits

Political, economic, and social issues of the Gilded Age. Populist revolt. Spanish-American War; overseas expansion and commitments. Progressive reforms. World War I and its immediate consequences.

741.8X Twentieth-Century America

30 hours plus conference; 3 credits

American history from the aftermath of the Progressive Era until the present. The course will focus on the effects of the Wilson presidency; the Depression and American life; the New Deal, World War II, and the onset of the Cold War; the changing nature of postwar liberalism; the United States in Vietnam; Richard Nixon and Watergate; environmentalism, feminism, and new social movements; and the revitalization of American conservatism.

743.1X History of American Political Parties

30 hours plus conference; 3 credits

Development, role, and impact of political parties in American history.

743.2X Modern American Diplomatic History from 1898

30 hours plus conference; 3 credits

American international relations from the Spanish-American War to the present.

743.3X The History of the American Presidency

30 hours plus conference; 3 credits

The history of the American presidency from the constitutional era until the present day. Topics include: the constitutional debates over the executive; the establishment and consolidation of the office; the records of important presidents, such as Washington, Lincoln, and the Progressive Era presidents; FDR and the expansion of the executive branch bureaucracy; the modern presidency and the Cold War; the law, foreign affairs, and public opinion.

743.4X American Constitutional History

30 hours plus conference; 3 credits

This course will examine American constitutional history since 1750. Beginning with the Revolutionary Era and the Constitutional Convention, the course will cover the establishment of the Supreme Court, nineteenth-century debates over slavery and economics, and the changing role of the Court in twentieth-century America.

745.2X History of Black Americans

30 hours plus conference; 3 credits

Role, status, aspirations of Blacks in American society from the colonial period to the present.

745.3X Immigrant Groups in American History

30 hours plus conference; 3 credits

Historical problems of acculturation and identity of immigrant groups.

Latin American/Caribbean/Asian/African history

751.2X Modern Latin America

30 hours plus conference; 3 credits

Transformation of the leading countries of Latin America from the age of reform and independence. Emergence of the changing political culture, society, and economic order of today.

751.5X The Caribbean from the Coming of the Europeans to the Present

30 hours plus conference; 3 credits

The history and historiography of the Caribbean basin. The coming of the Europeans and destruction of indigenous populations and cultures. The first colonization and Spanish dominance. The development of the sugar and slave complex. The Haitian Revolution and the end of slavery in the colonial empires. Nineteenth-century neglect. The United States and the new colonialism. The gradualist approach to independence in the British West Indies. Haiti, the Dominican Republic, and Cuba since 1900. Present attempts at social and economic development.

751.7X Slavery in the New World

30 hours plus conference; 3 credits

Slavery in the Americas from an Atlantic perspective (including developments in Africa and Europe) from the

fifteenth century until abolition. Topics to be addressed include: the historiography of slavery; slavery in Europe from the Greeks and Romans to fifteenth-century Iberia, the changing nature of slavery in Africa, the slave trade, the economics of slavery; the plantation system, daily life among slaves and slaveowners, slavery and race, hegemony, resistance, slave revolts, the Haitian Revolution, abolition in the Americas, and post-emancipation challenges.

752X Modern Ottoman History, 1700-1923

30 hours plus conference; 3 credits

Historiography and historical background; Ottomans and their wider world; statecraft and autocracy; trade and economic life; society and popular culture; women in the empire; peasants and townspeople; minority relations; encroaching Europe and reform; Egypt and Muhammad Ali; the Young Ottomans; centrality of the Balkans and consequences of their loss; debates over "decline"; debt crisis; Young Turks and centralization; pan-Islam; emergence of Arab nationalism; Ottomans and Zionists; war and collapse; imperial legacies.

753.2X Nationalism and Revolution in Modern East Asia

30 hours plus conference; 3 credits

Rise and development of nationalist and revolutionary movements in China, Japan, Korea, selected countries of Southeast Asia in modern times. Leaders, ideologies, political parties.

753.3X Pre-Modern China

30 hours plus conference; 3 credits

The history of China from its earliest origins to the Ming dynasty. Topics will vary, but may include the earliest Stone-Age civilizations, origins of the Chinese state and religion, the period of classical philosophy, the first conquest dynasties, the development of popular culture.

753.4X Modern China

30 hours plus conference; 3 credits

China from the early nineteenth century to the present. Breakdown of the Manchu dynasty and transformation of the traditional civilization during the republican and Communist eras.

753.5X Modern South Asia

30 hours plus conference; 3 credits

India under British rule, and India, Pakistan, and Bangladesh since independence. Evolution of nationalist movements and problems of modernization. Role of these independent nations in world affairs.

753.7X Imperialism and Nationalism in South and Southeast Asia

30 hours plus conference; 3 credits

Patterns of British and French rule in South and Southeast Asia from the nineteenth century. The rise of nationalism

in India and Vietnam from the late nineteenth century. Comparative analysis of these movements, especially the development of leadership, organization, and ideology, and the interplay of violent and nonviolent techniques of struggle. Impact of World War II and Japanese expansion for European rule and nationalist movements. Independence in the postwar period and the continuing role of great powers in the region. Some comparisons will be made to Indonesia, Malaya, Burma, and Cambodia.

753.8X Asia and the United States

30 hours plus conference; 3 credits

Lectures, critical readings, discussions, and research papers on the relations of China, Japan, India, Vietnam, and the United States from the late eighteenth century to the present. Some attention will be given to Asian immigrants in the United States from the mid-nineteenth century to the present.

754.IX Social Change in Africa, 1750-1945

30 hours plus conference; 3 credits

Introduction to social change in sub-Saharan Africa from the era of the slave trade to the end of World War II. Emphasis on internal transformations sparked by industrialization, imperial expansion and colonization, including both political innovations and changing market relations as well as transformations in kinship and gender relations. In depth coverage of slavery, women in the economy, the development of an African working class, religious transformations, the emergence of new elites, the growth of modern political activism, and resistance to colonization. This course is the same as Africana Studies 775X.

Special topics

760X Special Topics in History

30 hours plus conference; 3 credits

Offered at intervals. Topics vary. May be taken more than once, but a student may not repeat the same topic.

Colloquia

Colloquia are intensive reading/discussion courses designed to familiarize students with current research and writing in a major historical field. Colloquia are open only to students matriculated in history who have completed History 700X with a grade of A or B or who have been exempted from that requirement.

770.IX Colloquium in Medieval History

30 hours plus conference; 3 credits

Critical readings, discussions, and analytical student papers on significant works in political, socioeconomic, religious, intellectual, and cultural history from late antiquity to the fifteenth century. Three short essays and a final examination.

Prerequisite: History 700X with a grade of A or B.

770.2X Colloquium in Early Modern**European History**

30 hours plus conference; 3 credits

Critical readings, discussions, and analytical student papers on significant works in political, intellectual, and socioeconomic history from the fifteenth through the eighteenth centuries. Three short essays and a final examination.

Prerequisite: History 700X with a grade of A or B.

770.3X Colloquium in Modern and Recent**European History**

30 hours plus conference; 3 credits

Critical readings, discussions, and analytical student papers on significant works in political, intellectual, social, and cultural history from the end of the eighteenth century to the end of the twentieth century.

Prerequisite: History 700X with a grade of A or B.

770.4X Colloquium in Early American History

30 hours plus conference; 3 credits

Critical readings, discussions, and analytical student papers on significant works in political, intellectual, and socioeconomic history from the colonial to the antebellum periods. Three short essays and a final examination.

Prerequisite: History 700X with a grade of A or B.

**770.5 Colloquium in the Civil War
and Reconstruction**

30 hours plus conference; 3 credits

A reading-intensive course focusing on the U.S. Civil War and Reconstruction in scholarly discourse, popular memory, and public ritual. Historiography of the causes and consequences of sectional conflict with special reference to slavery, race, and the "Peculiar South"; westward expansion; new forms of mass politics, and economic and cultural changes within northern society that shaped the antislavery movement; the impact of class, gender, and racial affiliations; the war's influence on concepts of citizenship, states' rights, and national identity.

Prerequisite: History 700X.

**770.6X Colloquium in Twentieth-Century
American History**

30 hours plus conference; 3 credits

Critical readings, discussions, and analytical student papers on significant works in United States history since 1900.

Prerequisite: History 700X with a grade of A or B.

770.7X Colloquium in Asian History

30 hours plus conference; 3 credits

Critical readings, discussions, and research papers on themes in the comparative history of China, Japan, India, and Vietnam in the nineteenth and twentieth centuries.

Prerequisite: History 700X with a grade of A or B.

770.8X Colloquium in Middle Eastern History

30 hours plus conference; 3 credits

Critical readings, discussions, student oral reports and papers on documents and significant works in social, economic, political, religious, intellectual, and cultural history of the Middle East from the mid-fifteenth century to the end of the Ottoman Empire in 1923.

Prerequisite: History 700X with a grade of A or B.
Research and independent study courses

705G Research Seminar

30 hours plus conference; 3 credits

Application of basic principles and techniques of historical research and writing. Offered by various department members. Seminar topics are chosen by the instructor.

Prerequisite: History 700X with a grade of A or B and permission of the chairperson or the graduate deputy.

783G Master's Essay

Hours to be arranged; 3 credits

Research for master's essay supervised by a faculty member. Credit is not earned until the essay is accepted. Students may register for this course only once.

Prerequisite: History 700X and 705G (or 785G); and permission of the instructor and of the chairperson or the graduate deputy.

784G Independent Reading

Minimum of 135 hours of independent reading and conference; 3 credits

Independent study of readings from a selected area of history supervised by a faculty member. Findings are presented in written reports and/or a final examination. This course may be taken for credit twice.

Prerequisite: History 700X; and permission of the instructor, and of the chairperson or the graduate deputy.

785G Independent Research

Minimum of 135 hours of independent research and conference; 3 credits

Extensive research under faculty supervision. Findings presented in a substantial research paper.

Prerequisite: History 700X with a grade of A or B; and permission of the instructor, and of the chairperson or the graduate deputy.

The following courses are inactive and will be offered only if there is sufficient demand:

733X Modern Britain: 1780 to the Present**738.4X Women in Modern Europe****744.1X American Economic History**

Judaic Studies

Office: 3111 James Hall
Telephone: 951-5229

Chairperson: Sara Reguer

Deputy Chairperson, Division of Graduate Studies:

Herbert M. Druks

Professors: Druks, Helfand, Leiman, Reguer;

Associate Professor: Flatto.

The Department of Judaic Studies offers a master of arts degree program in Judaic studies.

M.A. in Judaic studies HEGIS code 0309

Matriculation requirements

Applicants must offer at least 18 credits in advanced undergraduate courses in Judaic studies or the equivalent. Applicants must offer minimal competency in the Hebrew language equivalent to two years of college-level Hebrew.

An interview is required at the time of application. General matriculation and admission requirements of the Division of Graduate Studies are in the section "Admission."

Degree requirements

Thirty credits are required for the degree.

Courses in Judaic studies are grouped in the following areas of study:

- A.** 1. Bible: Judaic Studies 704X, 706X, 707X, 708X, 782.IX.
2. Talmud and Midrash: Judaic Studies 711X, 712X, 714X, 715X, 782.2X.
- B.** 3. Jews of Central and Western Europe: Judaic Studies 720X, 722X, 723X, 724X, 782.3X.
4. Jews of Eastern Europe: Judaic Studies 730X, 731X, 732X, 736X, 782.4X.
5. Holocaust: Judaic Studies 747X, 748X, 749X, 750X, 782.5X.
- C.** 6. Jews of America: Judaic Studies 741X, 742X, 744X, 749X, 782.6X.
7. Israel and the Middle East: Judaic Studies 751X, 751.IX, 752X, 754X, 782.7X.
8. Modern Jewish Thought: Judaic Studies 720X, 754X, 760X, 761X, 782.8X.

Students must complete 21 credits in courses in the Judaic Studies Department. The following courses are required: four courses in one of the eight areas of study (selected from one of the categories A, B, or C); and at least one additional course selected from each of the two other categories (A, B, or C). Students who choose to write a thesis are required to take Judaic Studies 783G. The remaining 9 credits required for the degree may be in courses in other departments, or outside the college, with the approval of the chairperson.

Before completing 18 credits, students must pass an advanced language examination, administered by the department, which tests their ability to read and comprehend Hebrew or another foreign language pertinent to their area of specialization and approved by the department.

After completing all course work, except Judaic Studies 783G, students must pass a comprehensive examination or submit a thesis acceptable to the department. Students who choose to submit a thesis may do so only with the approval of the department.

Information about the thesis and comprehensive examination is in the section "Academic Regulations and Procedures."

Courses

The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

720X Western European Jewry from the Seventeenth Century to 1815

30 hours plus conference; 3 credits

A survey of the economic, social, and cultural changes that transformed Western European Jewry in the seventeenth and eighteenth centuries, and the process of adjustment and modernization in the wake of these changes.

723X Topics in the History of Western and Central European Jewry

30 hours plus conference; 3 credits

A research seminar dealing with different aspects of Western and Central European Jewry offered by various department members. Topics vary from term to term. Readings and research in source materials; students organize and present their findings in written papers. Students may complete this course for credit up to three times with the permission of the chairperson, but may not repeat topics.

Prerequisite: permission of the instructor.

724X Modern German Jewry

30 hours plus conference; 3 credits

A study of the German-speaking Jews of Central Europe. Focus on emancipation and acculturation, religious tradition and reform, patterns of occupation and residence, communal organization and political activities, and anti-Semitism.

730X East European Jewry Until 1917

30 hours plus conference; 3 credits

A survey of Jewish life in Poland, Lithuania, and Russia from the Middle Ages until 1917, emphasizing its communal and political history.

731X Jews in Eastern Europe, 1917 to the present

30 hours plus conference; 3 credits

Changing patterns of Jewish life in Soviet Russia, Lithuania, and Poland between two world wars; Soviet Jews during and after World War II, and the remnants of Polish Jewry in the post-Holocaust era.

736X Hasidic Dynasties: Leadership and Community

30 hours plus conference; 3 credits

Major Hasidic dynasties. Works of Hasidic leaders. Impact

of their thought and personality on their respective dynasties and communities.

741X The Jewish Experience in the United States

30 hours plus conference; 3 credits

Review of American Jewish history, including migrations, the Americanization process as well as religious and political factors.

747X Perspective on the Holocaust

30 hours plus conference; 3 credits

Analysis of the Holocaust in the context of Western civilization and the Jewish experience. Impacts of anti-Semitism and racism on international political and interreligious relations. The Jewish response to the Holocaust and its aftermath; political, psychological, theological reorientation.

748X The Holocaust in Literature

30 hours plus conference; 3 credits

A study of the Holocaust in world literature. The transformation of the Holocaust from an historical event into an artistic expression. Its major themes, patterns, symbols, traditions, and vocabulary in memoirs, diaries, fiction, drama, and poetry. All readings in English.

749X The British and American Response to the Holocaust

30 hours plus conference; 3 credits

Focus on the response of the British and American people and their governments to the Holocaust. Particular emphasis on the response of the British and American Jewish communities and their organizational responses from 1933 to the present.

750X Holocaust Seminar

30 hours plus conference; 3 credits

A research seminar dealing with different aspects of the Holocaust offered by various department members. Topics will vary from term to term. Readings and research in source materials; students organize and present their findings in written papers. Students may complete this course for credit up to three times with the permission of the chairperson but may not repeat topics.

Prerequisite: permission of the instructor.

751.1X Israel in the Modern World

30 hours plus conference; 3 credits

Aspects of Israel's international position and its foreign policy; the national Jewish revival; Western and Oriental cultures in Israel; Arab-Israeli relations and African-Israeli relations.

761X Contemporary Jewish Thought

30 hours plus conference; 3 credits

An in-depth consideration of one major contemporary Jewish thinker. Emphasis on the general theory of religion as well as the particular interpretation of Judaism given in each case. Among those to be studied are J.D. Soloveitchik, Martin Buber, and Mordecai Kaplan.

763X Suffering: The Book of Job and Its Literature

30 hours plus conference; 3 credits

An in-depth study of The Book of Job and the literature dealing with it. Discussion of the way that religious writers, both ancient and modern, deal with the issue of suffering. Why "bad things happen to good people." This course is the same as Liberal Studies 743X.

782.1X-782.8X Special Topics

30 hours plus conference; 3 credits

Topics vary from term to term.

782.1X Bible

782.2X Talmud and Midrash

782.3X Jews of Central and Western Europe

782.4X Jews of Eastern Europe

782.5X Holocaust

782.6X Jews of America

782.7X Israel and the Middle East

782.8X Modern Jewish Thought

Prerequisite: permission of the chairperson.

783G Thesis Research

Hours to be arranged; 3 credits

Research for the master's thesis supervised by a faculty member.

Prerequisite: permission of the chairperson.

785G Independent Study

Hours to be arranged; 3 credits

Readings in a selected area of Judaic studies supervised by a faculty member. Research paper and/or final examination.

Prerequisite: permission of the chairperson.

The following courses are inactive and will be offered only if there is sufficient demand:

- 704X The Biblical Period: An Intellectual History**
- 706X The Canon and Masorah of the Hebrew Bible**
- 707X Dead Sea Scrolls**
- 708X Bible Seminar: The Book of Deuteronomy**
- 711X The Tannaitic Period and its Literature**
- 712X The Amoraic Period and its Literature**
- 714X The Midrashic Literature**
- 715X Talmud Seminar**
- 722X Modern French Jewry**
- 732X Religious and Social Movements Among East European Jewry**
- 742X The Jews of New York**
- 744X The Sociology of the American Jewish Community**
- 751X Jews in the Moslem World**
- 752X The Old Yishuv**
- 754X Zionism**
- 760X Jewish Perspectives on Contemporary Ethical Issues**

Liberal Studies

Office: 4161 Boylan Hall
Telephone: 951-5281

Director: George A. Brinton

The Graduate Liberal Studies Program offers a master of arts degree in liberal studies upon completion of a structured interdisciplinary curriculum.

M.A. in liberal studies HEGIS code 4901

Matriculation requirements

An applicant must offer an academic index of B or higher in his or her area of undergraduate concentration.

A screening interview by the program coordinator is required.

General matriculation and admission requirements of the Division of Graduate Studies are in the section "Admission."

Degree requirements

Thirty credits are required for the degree.

Students must complete Liberal Studies 700X, 701X, 710X, 711X, 712X, and 780X; the remaining 12 credits are in elective courses chosen in consultation with the program coordinator.

Up to 6 graduate transfer credits may be applied to the program with the approval of the program coordinator.

Courses

Unless a prerequisite is specific, students may apply graduate or undergraduate courses toward fulfillment of that prerequisite.

The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

700X Core Seminar I, The Concept of Human Nature: The Elusive Image

90 hours; 6 credits

A study of the concept of human nature as seen through the disciplines of religion, philosophy, psychology, literature, art, and film/television in different historical periods and in various cultures.

Corequisite: Liberal Studies 710X.

701X Core Seminar II, The Concept of Human Nature: The Elusive Image

90 hours; 6 credits

A study of the concept of human nature as seen through the disciplines of archaeology/anthropology, comparative history, sociology, philosophy of science, computer and information science, and biology in different historical periods and in various cultures.

Corequisite: Liberal Studies 711X.

710X Symposium I

15 hours; 1 credit

Discussion of a topic related to Liberal Studies 700X by faculty and students; a short report is required.

Corequisite: Liberal Studies 700X.

711X Symposium II

15 hours; 1 credit

Discussion of a topic related to Liberal Studies 701X by faculty and students; a short report is required.

Corequisite: Liberal Studies 701X.

712X Symposium III

15 hours; 1 credit

Discussion of a topic related to current elective courses by faculty and students; a short report is required.

720X Language, Culture, and Society

30 hours plus conference; 3 credits

Examination of the various formulations of the interconnections among language, culture, and society. Focus on the interplay of language, society, and power with particular attention to issues of linguistic diversity based on gender and race, and to issues of multilingualism in education. Readings from the fields of linguistics, linguistic anthropology, philosophy, and literary theory. This course is the same as English 703X.

721X The Literary Presentation of Self

45 hours; 3 credits

Examination of religious and secular concepts of selfhood in relation to broad intellectual and social pattern of various historical epochs.

730X Two American Decades on Film: The Thirties and the Sixties

45 hours; 3 credits

Comparison of the ways that fiction films reflect American values. A look at the genre film as it adapts to the prevailing Zeitgeist.

731X New York Voices

30 hours plus conference and independent work; 3 credits

New York's neighborhoods, each with its distinctive characteristics, reflect the ethnic and social origins of the villages they once were. The purpose of this course will be to use documentary techniques, applied to first-person materials, in order to produce dramatic monologues for stage performances. The subjects of the scripts will be decided upon by students doing research on New York's "villages" and their most illustrious citizens.

742X The Sacred and the Self

45 hours; 3 credits

Examination of the sacred dimension of experience with respect to such topics as transcendence, resurrection and

immortality, salvation, and human nature. Both ancient and contemporary sources will be explored.

743X Suffering: The Book of Job and Its Literature

30 hours plus conference; 3 credits

An in-depth study of The Book of Job and the literature dealing with it. Discussion of the way that religious writers, both ancient and modern, deal with the issue of suffering. Why "bad things happen to good people." This course is the same as Judaic Studies 763X.

760X Special Topics

45 hours; 3 credits

Topics vary from term to term. Course description may be obtained in the Liberal Studies Program Office before registration. Students may take this course for credit twice, but may not repeat topics.

Prerequisite: permission of the program director.

780X Research Project

45 hours; 3 credits

An extensive research project based on an interdisciplinary topic, supervised by at least two members of the faculty. Students may receive credit for this course only on completion of all course work.

Prerequisite: approval of the program director.

783.1X, 783.2X Independent Research

Hours to be arranged; 3 credits

Independent research supervised by a faculty member:

Approved topic. Weekly conferences. Final project or report.

Prerequisite: approval of the program director.

The following courses are inactive and will be offered only if there is sufficient demand:

722X Moral and Pictorial Traditions in Western Civilization

741X Contemporary Feminist Thought

Mathematics

Office: 1156 Ingersoll Hall

Telephone: 951-5246, 951-5247

Chairperson: George S. Shapiro

Deputy Chairperson, CLAS: Wolfe Snow

Deputy Chairperson, SGS: Raymond Gittings

Professors: Gardiner, Gittings, Halpern, Hennefeld, Kohn, Marathe, Máté, Shapiro, Sibner, Stone, Velling;

Associate Professors: Godino, Hochberg, Snow, Spatz;

Assistant Professors: Bouziakova, Hu;

Lecturer: Miller (adjunct).

The Mathematics Department offers a master of arts degree program in mathematics and a master of arts degree program in teaching mathematics (7-12).

M.A. in mathematics HEGIS code 1701

Matriculation requirements

Applicants must offer at least 18 credits in mathematics courses beyond elementary calculus.

General matriculation and admission requirements of the Division of Graduate Studies are in the section "Admission."

Degree requirements

Thirty credits are required for the degree.

Students must complete 21 credits in courses in the Mathematics Department. The following courses are required: Mathematics 714.1X, 715.1X, 721X or 720.4X, and 722X.

With permission of the deputy chairperson, the remaining credits required for the degree may be in courses in any department.

Students must pass a comprehensive examination or submit a thesis acceptable to the department. Students may submit a thesis only with the approval of the department. Students who receive such approval are required to register for Mathematics 783X (no credit). Information about requirements for the comprehensive examination and the thesis is in the section "Academic Regulations and Procedures."

Courses in the Mathematics Department offered toward the degree must be 700-level courses.

The program of study must be approved by the deputy chairperson.

Recommendations

Students should submit the program of study for approval early, before initial registration if possible. The department gives guidance in planning a well-balanced program.

Students should acquire a reading knowledge of mathematical French, German, and/or Russian, although no foreign language examination is required.

M.A., mathematics teacher (7-12)

HEGIS code 1701-01

The profession of teacher education is licensed by the New York State Education Department. Therefore, program

requirements are subject to change. All students should consult with the School of Education for the current requirements.

Matriculation requirements

Applicants must offer at least 15 credits in mathematics courses beyond elementary calculus.

Applicants must also offer (a) or (b) or (c):

- (a) New York State Initial Certification in teaching mathematics for grades 7–12;
- (b) courses in education that meet the New York State standards for the pedagogical core. These courses include study of the following: history of education and philosophy of education or principles of education or educational sociology; educational psychology or developmental psychology or psychology of adolescence or adolescent development; classroom management; teaching students with special needs and English language learners; 6 credits in literacy and language acquisition; curriculum development and methods of assessing student learning; uses of technology in the classroom; methods of teaching mathematics in grades 7–12; 100 hours of fieldwork; 40 days or 300 hours of student teaching of mathematics in grades 7–12, or one year of full-time teaching of mathematics in grades 7–12; and submission of scores on the L.A.S.T.;
- (c) an undergraduate degree with an appropriate major or appropriate course work in mathematics, and submission of scores on the L.A.S.T.

Applicants must have a minimum undergraduate grade point average of 3.00. A minimum average of 3.00 in graduate courses is required to maintain matriculation.

Applicants who have not completed all the specific course requirements are given individual consideration and may be admitted with conditions, with the approval of the head of adolescence education and special subjects in the School of Education and the chairperson of the Mathematics Department.

International applicants for whom English is a second language are required to pass the Test of English as a Foreign Language (TOEFL) with a score of at least 550 before being considered for admission.

Applicants must consult matriculation requirements for adolescence education and special subjects in the School of Education section of the Bulletin, and should see the head of adolescence education and special subjects for counseling.

General matriculation and admission requirements of the Division of Graduate Studies are in the section "Admission."

Degree requirements

A minimum of 30 credits is required for the degree.

Students must complete 18 credits in courses in the Mathematics Department including Mathematics 720.2X,

731.1X, and at least one course from the following list: 710X, 714.1X, 752X. In special cases, with permission of the deputy chairperson, students may be permitted to substitute other courses in mathematics or in related fields for one or more of these three courses.

With permission of the deputy chairperson of the Mathematics Department, the remaining credits of the 18 credits required for the degree may be in courses in any department.

Students who do not offer for admission an advanced mathematics course in probability or statistics are required to take Mathematics 752X.

Students must complete 12 credits in courses in the School of Education. Students take different education courses and sequences of courses depending on their previous course work, teaching experience, and the certificates they hold. Students who possess Initial Certification in teaching mathematics must complete 9 credits in Group II and 3 credits in Group III, below. Students who do not possess Initial Certification in teaching mathematics or equivalent course work and teaching experience or who are teaching but do not possess Initial Certification in teaching mathematics must have the appropriate course work and credits in mathematics and must complete the appropriate courses in Group I before taking courses in Groups II and III, below. Students pursuing Initial Certification in teaching mathematics must take ED 792.2X, Teaching Writing Across the Curriculum, in Group III. Students who already have a master's degree but wish Initial Certification in teaching mathematics must take appropriate courses in Group I and Group III below, as determined at the time of matriculation by the program head of adolescence education and special subjects in the School of Education.

Group I: ED 742X, ED 792.1X, ED 763.03T, ED 764.5T, ED 723.03T, ED 764.51T.

Group II: ED 742.2T, ED 722.03T, ED 724.03T.

Group III: ED 716X, ED 721.03T, ED 726.1X, ED 731.3T, ED 751.2T, ED 784.2X, ED 792.2X, ED 792.4X/ENG 779X, ED 796X/THE 741, ED 799.5X.

Courses in the Mathematics Department and the School of Education offered toward the degree must be 700-level courses.

The program of study must be approved early in the first semester by the chairperson or deputy chairperson of the Mathematics Department and the head of adolescence education and special subjects in the School of Education.

CUNY Ph.D.

The City University of New York offers a doctoral program in mathematics. This is not a Brooklyn College program.

For information, contact the Mathematics Department of the Graduate Center of CUNY, 33 West 42 Street, New York, New York 10036.

Honor Society

Sigma Xi, the Scientific Research Society, encourages original investigation in the natural sciences, pure and applied. The fields of activity of the society include the physical sciences, the life sciences, the earth sciences, and mathematics. The Brooklyn College Chapter elects students to associate membership in the society on the basis of academic excellence and marked aptitude for research in one of the fields listed above.

Courses

Unless a prerequisite is specific, a student may apply graduate or undergraduate courses toward fulfillment of that prerequisite.

The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

At present, the program is small and many courses are offered as tutorials. Each semester students are consulted in the process of selecting the courses to be offered in the next semester.

Courses offered toward a master of arts degree in mathematics must be 700-level courses.

604.1T Number Systems and Algebra for Childhood and Middle Childhood Teachers

45 hours; 3 credits

The real number system and some of its subsystems. Introduction to group and field structures, solutions to equations. Number theory. Sequences and patterns, and problem solving. Technology as a tool for investigating algebra. Connections to curriculum and pedagogy. This course may not be offered toward a master of arts degree in secondary education.

Prerequisite: Mathematics 603T or a course in mathematics for elementary school teachers, or a mathematics course approved by the deputy chairperson.

604.2T Geometry for Childhood and Middle Childhood Teachers

45 hours; 3 credits

Investigation of two- and three-dimensional objects and their properties. Congruence and similarity. Coordinate geometry. Transformations in the plane, and their geometric and algebraic properties. Measurement of length, area, volume, surface area. Inductive and deductive proof in geometry. Connections of geometry to the arts and everyday applications. Technology as a tool for investigating geometry. Connections to curriculum and pedagogy. This course may not be offered toward a master of arts degree in secondary education.

Prerequisite: Mathematics 603T or a course in mathematics for elementary school teachers, or a mathematics course approved by the deputy chairperson.

604.3T Probability and Statistics for Childhood and Middle Childhood Teachers

45 hours; 3 credits

Set and graphical representations, counting principle, sample spaces and probability. Measures of central tendency and variability, binomial and normal distributions. Applications to sampling theory and testing of hypotheses; introduction to correlation and regression; applications to research in education. Use of the graphing calculator and databases on the Internet for exploring probability and statistics. Connections to curriculum and pedagogy. This course may not be offered toward a master of arts degree in secondary education.

Prerequisite: Mathematics 603T or a course in mathematics for elementary school teachers or a mathematics course approved by the deputy chairperson.

604.4T History of Mathematics for Childhood and Middle Childhood Teachers

45 hours; 3 credits

A study of historical and cultural perspectives of mathematics. Mathematical problem solving. Origins of number systems and number theory, algebra and topics in geometry, probability, and calculus. Famous men and women in mathematics. Video and Internet resources for exploring the history of mathematics. Connections to curriculum and pedagogy.

Prerequisite: Mathematics 604.1T or 604.2T or their equivalents.

604.5T Discrete Mathematics for Childhood and Middle Childhood Teachers

45 hours; 3 credits

Selected mathematical topics and modeling in the social sciences. Networks, Euler paths; sets, classification, and the counting principle; matrices; linear programming. Mathematics of voting. Technology as a tool for investigating discrete mathematics. Connections to curriculum and pedagogy.

604.6T Introduction to Functions and Applications for Childhood and Middle Childhood Teachers

45 hours; 3 credits

Analysis of the function concept and its unifying role in mathematics. Elementary algebraic and transcendental functions. Functions as mathematical models in the physical and social sciences. Use of technology to investigate functions, their properties, and applications. Connections to curriculum and pedagogy.

Prerequisite: Mathematics 604.1 or its equivalent, and permission of the deputy chairperson.

606T Workshop for Secondary School Teachers

45 hours; 3 credits

Traditional material in arithmetic, algebra, geometry, and other fields treated from a modern viewpoint.

Prerequisite: permission of the deputy chairperson.

606.01T, 606.02T Problem Seminar in Secondary School Mathematics

45 hours each term; 3 credits each term

Problem solving, discussion, and reports on topics in secondary school mathematics. Term paper or final examination.

606.1T Concepts of Secondary School Mathematics I: Finite Mathematics

45 hours; 3 credits

Computer programming; logic; sets; probability; statistics.

Emphasis on aspects found in the New York State Integrated Mathematics Curriculum.

Prerequisite: permission of the deputy chairperson.

606.2T Concepts of Secondary School Mathematics II: Geometry

45 hours; 3 credits

Foundations and basic ideas of geometry and their relation to the secondary school curriculum.

Prerequisite: Mathematics 606.1T or permission of the deputy chairperson.

606.3T Concepts of Secondary School Mathematics III: Modern Algebra

45 hours; 3 credits

Definition, description, and basic properties of the fundamental abstract structures; sets, functions and relations, binary operations, groups, rings, fields. Examples chosen from familiar systems.

Prerequisite: Mathematics 606.2T or permission of the deputy chairperson.

608.1T Calculus I

45 hours; 3 credits

Limits and continuity; techniques and applications of differentiation, including the calculus of trigonometric functions. The definite integral and antiderivatives.

Prerequisite: Mathematics 604.6T or permission of the deputy chairperson.

608.2T Calculus II

45 hours; 3 credits

Calculus of exponential and logarithmic functions. Techniques of integration. Applications of integration. Infinite sequences and series. Parametric curves.

Prerequisite: Mathematics 608.1T or permission of the deputy chairperson.

652X Topics in Probability Theory and Statistics

45 hours; 3 credits

Set theory, counting arguments, functions, review of infinite series, sample spaces and probability spaces, conditional probability and independence, discrete and continuous random variables and their distribution functions, joint

distributions, expected values and moments, Chebyshev's inequalities, the law of large numbers, central limit theorem, applications to sampling theory and testing of hypotheses, confidence intervals, introduction to correlation, and regression analysis.

Prerequisite: Mathematics 607X or a year of calculus or permission of the chairperson.

701.2X Foundations of Secondary School Mathematics Curricula II

30 hours plus independent work and conference; 3 credits Logic; groups; fields; axiomatic affine geometry; the real number system; statistics.

Prerequisite: Mathematics 701.1X.

705X Mathematical Problem-Solving in a Computer-Assisted Environment

30 hours; 2 credits

Mathematical problem-solving, particularly related to applications requiring intensive calculation or visualization using sophisticated "computer algebra" systems and graphing calculators. Students will work in small teams on problems drawn from calculus and more advanced undergraduate mathematics courses.

Prerequisite: Matriculation in the M.A., mathematics teacher (7-12), program.

710X Introduction to the Theory of Sets

45 hours plus independent work and conference; 4 credits

Algebra of sets. Order. Cardinal and ordinal numbers and their arithmetics. Informal axiomatic mathematics. Informal axiomatic set theory.

714.1X Theory of Functions I

45 hours plus independent work and conference; 4 credits

Unified treatment of functions over the real and complex domains, including limits, continuity, derivatives, integrals. (Not open to students who have completed Mathematics 714.1G.)

715.1X Theory of Functions II

45 hours plus independent work and conference; 4 credits

Cauchy's integral formulas; Taylor and Laurent series; properties of analytic functions; singularities and residues; conformal mapping; analytic continuation; entire functions. (Not open to students who have completed Mathematics 715.1G.)

Prerequisite: Mathematics 714.1G or 714.1X or the equivalent.

717X Theory of Numbers

45 hours plus independent work and conference; 4 credits

Theory of rational integers, including Diophantine equations, primitive roots, quadratic residues. Theory of algebraic integers of particular quadratic domains. Theory of general algebraic number fields and their integral domains.

720.2X Modern Algebra I

45 hours plus independent work and conference; 4 credits

Topics from group theory, number theory, linear algebra, field theory.

720.4X Modern Algebra II

45 hours plus independent work and conference; 4 credits

A continuation of Mathematics 720.2X.

Prerequisite: Mathematics 720.2X or permission of the chairperson.

722X Point Set Topology

45 hours plus independent work and conference; 4 credits

Theory of sets and of the standard properties of metric and topological spaces. (Not open to students who have completed Mathematics 722G.)

726X Vector Spaces and Matrices

45 hours plus independent work and conference; 4 credits

Introduction to the theory of linear vector spaces of finite dimensions with applications to algebra and geometry.

Linear dependence, linear subspaces, dimensions, linear transformations, systems of linear equations, matrices, bilinear and quadratic forms, inner products, orthogonality, Euclidean spaces, orthogonal and unitary equivalences.

731.IX Geometrical Transformations

45 hours plus independent work and conference; 4 credits

Determination and classification of transformations. Invariants. Groups of transformations in Euclidean, affine, inversive, and projective planes and spaces.

741X History of Mathematical Ideas

45 hours plus independent work and conference; 4 credits

Development of important mathematical concepts in historical and cultural contexts.

752X Introduction to Probability and Statistics

45 hours plus independent work and conference; 4 credits

Boolean algebra. Bayes's theorem. Law of large numbers. Discrete and continuous distributions. Regression and correlation. Sampling theory and the testing of statistical hypotheses.

783X Thesis Research

Hours to be arranged; no credit

Research for master's thesis supervised by a faculty member. Students register for this course only once.

Prerequisite: 20 credits in approved courses and permission of the instructor.

784.IX, 784.2X, 784.3X Independent Study

Hours to be arranged; 1 credit each term

Independent study of selected reading approved by a faculty adviser. Term paper or final examination.

The following courses are inactive and will be offered only if there is sufficient demand:

607X Topics in Differential and Integral Calculus**701.IX Foundations of Secondary School Mathematics Curricula I****701.3X Foundations of Secondary School Mathematics Curricula III****721X Introduction to Field Theory****723.IX Theory of Graphs****725X Theory of Measure and Integration****729X Non-Euclidean Geometry****737X Differential Geometry****738G Introduction to Algebraic Topology****739.IX Topics in Numerical Analysis****756.IX Mathematics for Applications****758X Theory of Games****760X Introduction to Mathematical Logic**

Modern Languages and Literatures

Office: 4239 Boylan Hall
Telephone: 951-5451, 951-5452

Chairperson: William M. Sherzer
Deputy Chairperson, Division of Graduate Studies:
William M. Sherzer
Deputy Chairperson, CLAS: Malva E. Filer
Professors: Blasi, Fernández Olmos, Filer, Mbom, Sherzer;
Assistant Professors: Childers, Renner;
Instructor: Alonso.

The Department of Modern Languages and Literatures offers a master of arts degree program in French or Spanish and a master of arts degree program in teaching French (7–12) or Spanish (7–12).

M.A. in French HEGIS code 1102 or M.A. in Spanish HEGIS code 1105

Matriculation requirements

Applicants must offer at least 18 credits in advanced courses in French, if they plan to take the degree in that language, or Spanish, if they plan to take the degree in that language.

General matriculation and admission requirements of the Division of Graduate Studies are in the section "Admission."

Degree requirements

Thirty to 42 credits are required for the degree.

Students must pass a written and oral comprehensive examination or complete both (a) and (b):

- (a) complete 12 credits of course work in addition to the credits otherwise required;
- (b) write a substantial research paper, in the language of the degree program, acceptable to the department.

Information about requirements for the comprehensive examination is in the section "Academic Regulations and Procedures."

Courses in the Modern Languages and Literatures Department offered toward the degree must be 700-level courses.

The program of study must be approved by the department. Students must also complete requirements in one language as follows:

French: Students must complete 30 credits in courses in French. The following courses are required: French 703X and 717X.

Spanish: Students must complete 30 credits in courses in Spanish. The following courses are required: Spanish 703X, 717X, a course in Peninsular Spanish literature, and a course in Spanish-American literature.

M.A., French teacher (7–12) HEGIS code 1102-01 or Spanish teacher (7–12) HEGIS code 1105-01

The profession of teacher education is licensed by the New York State Education Department. Therefore, program

requirements are subject to change. All students should consult with the School of Education for the current requirements.

Matriculation requirements

Applicants must offer at least 18 credits in advanced courses in French, if they plan to teach that language, or Spanish, if they plan to teach that language.

Applicants must also offer (a) or (b) or (c):

(a) New York State Initial Certification in teaching French or Spanish for grades 7–12;

(b) courses in education that meet the New York State standards for the pedagogical core. These courses include study of the following: history of education and philosophy of education or principles of education or educational sociology; educational psychology or developmental psychology or psychology of adolescence or adolescent development; classroom management; teaching students with special needs and English language learners; 6 credits in literacy and language acquisition; curriculum development and methods of assessing student learning; uses of technology in the classroom; methods of teaching Spanish or French in grades 7–12; 100 hours of fieldwork; 40 days or 300 hours of student teaching of Spanish or French in grades 7–12, or one year of full-time teaching of Spanish or French in grades 7–12; and submission of scores on the L.A.S.T.;

(c) an undergraduate degree with a major in French or Spanish or appropriate course work in French or Spanish, and submission of scores on the L.A.S.T.

Applicants must have a minimum grade point average of 3.00. A minimum average of 3.00 in graduate courses is required to maintain matriculation.

Applicants who have not completed all the specific course requirements are given individual consideration and may be admitted with conditions, with the approval of the head of adolescence education and special subjects in the School of Education and the chairperson of the Department of Modern Languages and Literatures.

International applicants for whom English is a second language are required to pass the Test of English as a Foreign Language (TOEFL) with a score of 550 before being considered for admission.

Applicants must consult matriculation requirements for adolescence education and special subjects in the School of Education section of the Bulletin, and should see the head of adolescence education and special subjects for counseling.

General matriculation and admission requirements of the Division of Graduate Studies are in the section "Admission."

Degree requirements

A minimum of 30 credits is required for the degree.

Students must complete 12 credits in courses in the School of Education. Students take different education courses and sequences of courses depending on their previous course

work, teaching experience, and the certificates they hold. Students who possess Initial Certification in teaching Spanish or French must complete 9 credits in Group II and 3 credits in Group III, below. Students who do not possess Initial Certification in teaching Spanish or French or equivalent course work and teaching experience or who are teaching but do not possess Initial Certification in teaching Spanish or French must have the appropriate course work and credits in the subject area and must complete the appropriate courses in Group I before taking courses in Groups II and III, below. Students pursuing Initial Certification in teaching Spanish or French must take ED 792.2X, Teaching Writing Across the Curriculum, in Group III. Students who already have a master's degree but wish Initial Certification in teaching Spanish or French must take appropriate courses in Group I and Group III, below, as determined at the time of matriculation by the head of adolescence education and special subjects in the School of Education.

Group I: ED 742X, ED 792.1X, ED 763.1IT, ED 764.5T, ED 723.1IT, ED 764.5IT.

Group II: ED 742.2T, ED 722.1IT, ED 724.1IT.

Group III: ED 716X, ED 721.1IT, ED 726.1X, ED 731.3T, ED 751.2T, ED 784.2X, ED 792.2X, ED 792.4X/ENG 779X, ED 796X/THE 741, ED 799.5X.

Students must also complete requirements in one language as follows:

French: Students must complete 18 credits in French. The following courses are required: French 717X; 751.3X or 754.1X.

Spanish: Students must complete 18 credits in Spanish. The following courses are required: Spanish 717X; 751.3X or 751.4X; a course in Spanish-American literature; and a course in Peninsular Spanish literature.

Students must pass a written and oral comprehensive examination or complete both (a) and (b):

- a) complete 12 credits of course work in addition to the credits otherwise required;
- b) write a substantial research paper, in the language of the degree program, acceptable to the Department of Modern Languages and Literatures.

Information about the comprehensive examination is in the section "Academic Regulations and Procedures."

Courses in the Modern Languages and Literatures Department and the School of Education offered toward the degree must be 700-level courses.

The program of study must be approved early in the first semester by the chairperson or deputy chairperson of the Modern Languages and Literatures Department and the head of adolescence education and special subjects in the School of Education.

CUNY Ph.D.

The City University of New York offers doctoral programs in French and Spanish. General information about CUNY Ph.D. programs is in the chapter "About Brooklyn College."

The Modern Languages and Literatures Department offers courses at Brooklyn College that may be credited toward the CUNY doctoral degree with permission of the executive officer of the doctoral program. For information about the courses, students should consult the chairperson of the Modern Languages and Literatures Department and the executive officer of the doctoral program.

Courses

Unless a prerequisite is specific, students may apply graduate or undergraduate courses toward fulfillment of that prerequisite.

The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

French

Unless otherwise noted, courses are conducted in French.

701X History of the French Language

30 hours plus conference; 3 credits

Evolution of French from Latin. Phonology, morphology, syntax, semantics. This course is conducted in English.

Prerequisite: one year of college Latin or the equivalent.

703X Introduction to Literary Research

30 hours plus conference; 3 credits

Introduction to bibliographical sources, research materials, and the mechanics of documentation. Principles of literary theory and criticism. Presentation of a written paper.

717X Grammar and Syntax

30 hours plus conference; 3 credits

Study of linguistic and syntactic patterns with some attention to the historical development of the language. Intensive practice in the written and spoken language.

718X Translation

30 hours plus conference; 3 credits

French-English and English-French translation of short texts from a variety of fields and styles. Analysis of structures and idioms in both languages.

722.3X Studies in Renaissance Literature

30 hours plus conference; 3 credits

Rabelais, Montaigne, Marot and the Lyonese school, La Pléiade.

723.5 X Studies in Seventeenth-Century Literature

30 hours plus conference; 3 credits

Theater, poetry, prose.

726.3X Studies in Eighteenth-Century Literature

30 hours plus conference; 3 credits

Prerevolutionary political and social ideas in eighteenth-century literature.

731.2X Studies in Nineteenth-Century Literature

30 hours plus conference; 3 credits

Stendhal, Balzac, Flaubert, Zola, others.

735X Evolution of Poetic Forms to Baudelaire

30 hours plus conference; 3 credits

French poetry from the Middle Ages through Romanticism.

741.6X Studies in Twentieth-Century Literature

30 hours plus conference; 3 credits

French literature from 1890 to 1930.

743X Studies in French Poetry from Baudelaire to the Present

30 hours plus conference; 3 credits

Important movements in modern French poetry: Parnasse, Symbolism, Surrealism, postwar.

744X Studies in Modern French Theater

30 hours plus conference; 3 credits

Plays, playwrights, movements from the turn of the century to the present.

745X Studies in Contemporary French Literature

30 hours plus conference; 3 credits

Readings from novels, theater, and criticism from 1930 to the present. Emphasis on post-World War II developments.

Existentialism and the *nouveau roman*.

751.3X Culture of France

30 hours plus conference; 3 credits

Aspects of contemporary French civilization and culture and their relations to historical and geographical influences. Perceptions and values as expressed in the arts as well as in the political and social institutions.

751.4X Francophone Cultures

30 hours plus conference; 3 credits

Francophone cultures of Africa, the Caribbean, and Canada. Emphasis on the interplay of French and indigenous values in the areas of language, education, economy, religion, psychology, and literature. The creation of new cultural identities.

781X Seminar in Literature

30 hours plus conference; 3 credits

Detailed study of representative authors. Content of the

course varies. This course may be repeated for credit.

Prerequisite: two graduate courses in French.

Italian

781X Dante's *Divina Commedia*

45 hours; 3 credits

A reading of selected Cantos of the *Divina Commedia*, examined at its multiple levels of meaning, literal and allegorical, theological, political, psychological, and artistic.

Spanish

Unless otherwise noted, courses are conducted in Spanish.

701X History of the Spanish Language

30 hours plus conference; 3 credits

Evolution of Spanish from Latin. Phonology, morphology, syntax, semantics. This course is conducted in English.

Prerequisite: one year of college Latin or the equivalent.

702X Spanish Dialectology: The Language of Spain and the Americas

30 hours plus conference; 3 credits

A historical and linguistic study of the Spanish language in Spain and its present-day variants in Latin America, the Caribbean, and the United States.

703X Introduction to Literary Research

30 hours plus conference; 3 credits

Introduction to bibliographical sources, research materials, and the mechanics of documentation. Principles of literary theory and criticism. Presentation of a written paper.

705X Hispanic Literary Movements and Trends

45 hours; 3 credits

A survey of Hispanic literary history. This course reviews all the major periods in Hispanic literature in both continents and also studies the appearance and development of literary movements, genres, and trends throughout those periods. Short texts and excerpts will be read as illustrations of the different periods and genres studied.

705.IX Spanish Literary Movements and Trends

30 hours plus conference; 3 credits

A survey of Spanish literary history. A review of all major periods in Spanish peninsular literature and a study of the appearance and development of literary movements, genres, and trends throughout those periods. Short texts and excerpts will be read as illustrations of the different periods and genres studied.

705.2X Hispanic Literary Movements and Trends

30 hours plus conference; 3 credits

A survey of Latin American literary history. A review of all major periods in Latin American literature and a study of the appearance and development of literary movements, genres, and trends throughout those periods. Short texts and excerpts will be read as illustrations of the different periods and genres studied.

715X Spanish Prose and Poetry of the Golden Age

30 hours plus conference; 3 credits

Sixteenth- and seventeenth-century prose and poetry from *La Celestina* to *La vida es sueño*.

717X Grammatical and Syntactical Analysis

30 hours plus conference; 3 credits

Advanced analysis of grammatical and syntactical problems. Special attention will be paid to providing the knowledge of grammar and syntax needed to teach the Spanish language.

717.12X Writing and Stylistics

30 hours plus conference; 3 credits

Continued practice in written expression and in textual analysis for heritage and nonheritage speakers; compositions modeled on selected literary texts.

Prerequisite: Spanish 717X or permission of the chairperson.

722X Cervantes

30 hours plus conference; 3 credits

Narrative prose of Cervantes. The *Quijote*.

725X The Spanish Comedia

30 hours plus conference; 3 credits

Early developments. The plays of Lope, Tirso, and Calderón.

731X Hispanic Short Narrative

30 hours plus conference; 3 credits

A study of short narrative written in the Spanish language, including the essay.

735X Explicating Hispanic Literary Works

30 hours plus conference; 3 credits

An analysis of major works that are often taught in secondary school curricula, with special attention to developing literary critical perspectives.

742X Spanish Novel of the Nineteenth Century

30 hours plus conference; 3 credits

Development of the Spanish novel from Romanticism through Realism to Naturalism.

749X Contemporary Hispanic Poetry

30 hours plus conference; 3 credits

Major writers and trends in Latin American and Peninsular

poetry from *Modernismo* to the present. (Not open to students who have completed Spanish 750X or 764X.)

751.3X Peninsular Hispanic Culture

30 hours plus conference; 3 credits

Aspects of contemporary peninsular Spanish culture and civilization and their relation to historical influences. Emphasis on the intellectual and artistic achievements of the Spanish people as well as their political and social institutions.

751.4X Latin American Culture

30 hours plus conference; 3 credits

Perceptions and values as expressed in the arts as well as in political and social institutions. Emphasis on manifestations of Hispanic, indigenous, and African values in the area as a whole as well as in its separate regions.

753.11X Language and Technology

45 hours; 30 hours multimedia laboratory; 3 credits

A systematic approach to multimedia resources for students and teachers of Languages Other Than English. Audiovisual materials (audio documents, films, and videos), software programs, electronic dictionaries. Audio, video, CD-ROM format and the Web information materials, news and other original texts in foreign languages in formats other than printed media. Use of e-mail as a teaching tool. Use of the Web as an environment for learning and teaching foreign languages. Development of classroom activities using multimedia technologies. To be taught in English.

754X Contemporary Hispanic Theater

30 hours plus conference; 3 credits

Major playwrights and trends in Latin American theater from the 1930s to the present. (Not open to students who have completed Spanish 752X.)

756X Contemporary Spanish Novel

30 hours plus conference; 3 credits

Major novelists from the Generation of 1898 to the present.

759X Latin American Novel of the Nineteenth Century

30 hours plus conference; 3 credits

Romantic and Realist movements.

759.1X Contemporary Latin American Novel

30 hours plus conference; 3 credits

Aspects of the novel from the Modernist period to the present.

763X Studies in Latin American Colonial Literature

30 hours plus conference; 3 credits

Developments through the eighteenth century.

781X Seminar in Literature

30 hours plus conference; 3 credits

Detailed study of representative authors. Content of the course varies. This course may be repeated for credit.

Prerequisite: two graduate courses in Spanish.

799G Thesis Research

Hours to be arranged; no credit

Research for the master's thesis supervised by a faculty member. Degree is not earned until thesis is accepted. Students register for this course only once.

Prerequisite: permission of the chairperson.

Brooklyn College Summer Institute for Teachers in Madrid, Spain

The Brooklyn College Summer Institute for Teachers in Madrid, Spain, is a three-week summer program held in conjunction with the Fundación José Ortega y Gasset, a fully accredited academic institution. The program provides courses in language and culture for secondary school teachers of Spanish and graduate students in Spanish.

770X Problems in Advanced Spanish Grammar

30 hours plus conference; 3 credits

Detailed study of specific problems related to the study and teaching of Spanish syntax, orthography, and phonetics, with an emphasis on oral and written communication in the language. Content varies. Course may be repeated provided the topics and materials are different. This course is only offered at the Brooklyn College Summer Institute for Teachers in Madrid, Spain.

771X Studies in Contemporary Spanish Language

30 hours plus conference; 3 credits

Detailed analysis of specific aspects of current oral and written usage in Spanish as manifested in a wide variety of vehicles of communication ranging from the personal to the public, with an emphasis on practical and pedagogical applications of a diversity of linguistic registers and modes. Content varies. Course may be repeated provided the topics and materials are different. This course is only offered at the Brooklyn College Summer Institute for Teachers in Madrid, Spain.

772X Aspects of Spanish Culture and the Arts

30 hours plus fieldwork; 3 credits

Detailed, interdisciplinary study of specific aspects of the Spanish cultural heritage in relation to one or more of the performing and visual arts such as music, theater, film, television, painting, sculpture, and architecture, with attention to the potential incorporation of the arts into the Spanish classroom. Excursions, museums visits, live performances, films. Content varies. Course may be repeated provided the topics and materials are different. This course is only offered at the Brooklyn College Summer Institute for Teachers in Madrid, Spain.

773X Studies in Contemporary Spanish Culture

30 hours plus fieldwork; 3 credits

Detailed analysis of particular aspects of specific cultural manifestations and trends in present-day Spain as independent phenomena as well as within a larger global context, as manifested in the media, the arts, narrative fiction, and the essay, with attention to the potential incorporation of such subjects into the Spanish classroom. Content varies. Course may be repeated provided the topics and materials are different. This course is only offered at the Brooklyn College Summer Institute for Teachers in Madrid, Spain.

778X Seminar in Writing and Stylistics

30 hours plus conference; 3 credits

Development of individual and creative written expression in Spanish through a detailed examination of carefully selected critical and literary texts, reinforced by theoretical and pedagogical considerations designed to further the incorporation of a variety of writing skills and techniques into the classroom. Content varies. Course may be repeated provided the topics and materials are different. This course is only offered at the Brooklyn College Summer Institute for Teachers in Madrid, Spain.

779X Seminar in Hispanic Cultures

30 hours plus fieldwork; 3 credits

Detailed exploration of a specific aspect of Spanish culture within the context of Latin American cultures of the Western Hemisphere, with an emphasis on the commonality as well as the diversity of the Hispanic heritage and the potential incorporation of such themes into the Spanish classroom. Content varies. Course may be repeated provided the topics and materials are different. This course is only offered at the Brooklyn College Summer Institute for Teachers in Madrid, Spain.

Music

Conservatory office: 422 Whitehead Hall
Telephone: 951-5286, 951-5287, 951-5954

Director: Nancy Hager

Assistant Director for Graduate Studies: Bruce MacIntyre

Professors: Barrett, Hager, Hedwig, Kawasaki, Lang, León, MacIntyre, Shelden, Wolman;

Associate Professors: Allen, Hisama, Palmquist Rupprecht, Taylor;

Assistant Professors: Babcock, Washington.

The Conservatory of Music offers a master of arts degree program in music with concentrations in musicology or performance practice, a master of music degree program in composition or performance, and a master of arts degree program in teaching music (all grades).

The Conservatory of Music also offers an advanced certificate in music teaching that leads to the New York State initial teaching certificate. The Conservatory of Music also offers courses that are part of the advanced certificate program in Performance and Interactive Media Arts (PIMA).

M.A. in music HEGIS code 1005

Students choose a concentration in one of the following: musicology or performance practice.

Matriculation requirements

Applicants must offer at least 36 credits in music courses including courses in analysis, counterpoint, harmony, and history.

Consideration is given to applicants who do not meet course requirements but have unusual talent or experience equivalent to course work. Such applicants should consult the assistant director.

A placement examination is given to all applicants for admission. The test includes writing skills (harmonic and contrapuntal techniques), analysis, history, and literature. Further information about the examination may be obtained from the assistant director.

Applicants who intend to concentrate in performance practice must pass an audition at the time of application. A request for an audition appointment may be made by telephone to the conservatory office.

Applicants in performance practice must also submit one paper on a historical or analytic topic.

Applicants who intend to concentrate in musicology must submit with the application two papers either on historical or analytic subjects.

General matriculation and admission requirements of the Division of Graduate Studies are in the section "Admission."

Degree requirements

Thirty credits are required for the degree for the concentration in performance practice. Thirty credits and a thesis or 36 credits and no thesis are required for the degree for the concentration in musicology.

Before completing 12 credits, students must pass a test given by the conservatory in French, German, or another language approved by the assistant director. Students who completed their bachelor's degree using a modern language other than English may be exempted from this language examination by the assistant director.

Students must pass a comprehensive examination.

Information about requirements for the comprehensive examination and thesis is in the section "Academic Regulations and Procedures."

Courses in the conservatory offered toward the degree must be 700-level courses.

The program of study must be approved by the conservatory.

Students must also complete requirements in one concentration as follows. Any remaining credits required for the degree must be in courses chosen in consultation with the assistant director:

Musicology (22–28 credits): Music U700G; Music U705G or U706G; Music U740G; three courses chosen from Music U760.1G through U765.1X, and 786X, to include two seminars in history and one in theory; and one course chosen from Music 770X through 778X. Students may submit a thesis acceptable to the conservatory or complete specified required courses in lieu of a thesis. Students who choose to write a thesis must complete Music U793X. Students who do not choose to write a thesis must complete three courses chosen from Music U760.1G through U765.1X and 786X.

Performance practice (30 credits): Music 700G, Music U740G; two courses chosen from Music U760.1G through Music U765.1X and 786X; three courses chosen from Music 770X through 778X; Music 779.1X, 779.2X, U784X, U793X; and Music U706G or U791.3X or another elective approved by the assistant director. Students must present a combined written thesis and recital.

Master of music in composition

HEGIS code 1004.10;

Master of music in performance HEGIS code 1004

Separate programs are offered in composition and in performance, each of which leads to the master of music degree.

Matriculation requirements

Applicants for either program must offer at least 36 credits in music courses including courses in analysis, counterpoint, harmony, and history.

Consideration is given to applicants who do not meet course requirements but have unusual talent or experience equivalent to course work. Such applicants should consult the assistant director.

A placement examination is given to all applicants for admission. The test includes writing skills (harmonic and contrapuntal techniques), analysis, history, and literature. Further information about the examination may be obtained from the assistant director.

Applicants for the program in composition must submit a completed composition or compositions, which should be sent to the assistant director at the time of application.

Applicants for the program in performance must pass an audition at the time of application. A request for an audition appointment may be made by telephone to the conservatory office.

General matriculation and admission requirements of the Division of Graduate Studies are in the section "Admission."

Degree requirements

Thirty credits are required for the master of music degree either in composition or performance.

Before completing 12 credits, students must pass a test given by the conservatory in French, German, or another language approved by the assistant director. Students who completed their bachelor's degree using a modern language other than English may be exempted from this language examination by the assistant director.

Students must pass a comprehensive examination. Information about requirements for the comprehensive examination is in the section "Academic Regulations and Procedures."

Courses in the conservatory offered toward the degree must be 700-level courses. The program of study must be approved by the conservatory.

Students must also complete requirements for the program in composition or in performance as follows. Any remaining credits required for the degree must be in courses chosen in consultation with the assistant director.

Composition (22 credits): Music U732.1X, U732.2X, U732.3X, U740G; one course chosen from Music U760.1G–U760.6G, U763.1G, U765X, U765.1X, 786X; one course chosen from Music U763.2G, U764.1X, U764.2X, U764.3X; one course chosen from Music 770X through 778X; and Music U794G. Students must submit a master's composition project.

Performance (25 credits): Music U740G; one course chosen from Music U760.1G–U760.6G, U763.1G, U765X, U765.1X, 786X; one course chosen from Music U763.2G, U764.1X, U764.2X; four courses chosen from Music 770X through 778X; and Music 779.1X, 779.2X, 779.3X, U795G. Students must perform a master's recital.

Recommendation

Composition majors interested in electronic music who take Music U732X should also consider taking Music U737.1G and U737.2G.

Music majors aiming toward professional careers as performers are strongly urged to take additional ensembles each semester, including at least two terms of Music 774.1X, 774.2X, 774.3X, 774.5X or 778X (i.e., Contemporary Music Ensemble, Brass Ensemble, Woodwind Chamber Music, Small Jazz Ensemble, or Jazz Ensemble).

Performance faculty

See the faculty listing beginning on page 224 for further information about the following full-time and part-time performance faculty.

Brass

Bonvissuto, Hedwig, Howard, M. Powell, Rojas.

Brooklyn College Chorus

Babcock.

Chamber Chorus

Babcock.

Conducting

Babcock, Barrett, León.

Contemporary Music Ensemble

León.

Guitar

Frandsen.

Harp

Cutler.

Opera Theater

Barrett.

Orchestra

Babcock, Barrett, Lang, Léon.

Percussion Ensemble

Lang.

Piano/Organ/Accompaniment

Biegel, Diez, Eguchi, Kaminski, Rogers, Shin.

Strings

Chai, Feldman, Gallagher, Hirsh, Kawasaki, Panteleyev, Reichert, Salas, Tanaka, Zlotkin.

Timpani and percussion

Lang, Willson.

Voice

Alexander, Barrett, Birnbaum, Bonazzi, Cultice, Dunn, Gubrud, Harte, Makarina, McCaffrey, Schnable, Woodruff.

Woodwinds

Begelman, P. Cohen, Ellis, Goldberg, Hindell, Jones, Lucarelli, Neidich, Shelden, Jane Taylor, Washington, Weber.

M.A., music teacher (all grades) HEGIS code 0832

The profession of teacher education is licensed by the New York State Education Department. Therefore, program requirements are subject to change. All students should consult with the program adviser in the Conservatory of Music for the current requirements.

Matriculation requirements

In addition to meeting the general matriculation and admission requirements of the Division of Graduate Studies, applicants must hold either a B.A. in music teaching or a B.Mus. in music education. Also eligible to apply are (a) students holding other music bachelor's degrees with sufficient course work in education and music education to be permitted to take student teaching, or (b) students holding

a bachelor's degree with at least 36 credits in music courses, including an array of analysis, counterpoint, harmony, history, conducting, performance, education, and music education courses sufficient for admission to student teaching in music. Requirements for student teaching are available from the coordinator of music education.

Applicants must submit scores on the L.A.S.T. Applicants must have a minimum undergraduate grade point average of 3.00. International applicants for whom English is a second language must have attained a TOEFL score of 550 or better to be considered for admission.

Applicants must pass a performance audition and music education interview and submit a portfolio including such items as résumé, writing sample, and evidence of teaching experience.

A placement examination covering music history, theory, and analysis is given to all applicants for admission. Further information about the examination is available from the assistant director of the Conservatory of Music.

The student's program must be planned and approved by the coordinator of music education and approved by the assistant director. Courses in the conservatory offered toward the degree must be 700-level courses.

General matriculation and admission requirements of the Division of Graduate Studies are in the section "Admission."

Degree requirements

Thirty to 33 credits are required for the degree.

The following courses are required:

1. Music U740G.
2. One course chosen from Music U760.1G–U760.6G, U763.1G, U765X, U765.1X, or U786X.
3. One course chosen from Music U763.2G, U764.1X, U764.2X.
4. Two courses chosen from Music 770X through 778X.
5. One course chosen from Education 724.12T, Music U700G, or Music U701T.
6. Music U720.1X and U717T.
7. One course chosen from Music 710.1X, 712.1X, 712.2X, 715T, 763.3X.
8. Four credits in music, music performance (studio lessons and/or ensembles), music education, or education electives.
9. Thesis (Music U793X) or Music Education Master's Project (Music U792T) or an additional 6 credits in music, music performance (studio lessons and/or ensembles), music education, or education electives.

Students must pass a comprehensive examination. Information about requirements for the comprehensive examination is in the section "Academic Regulations and Procedures."

Advanced certificate in music education

HEGIS code 0832

Matriculation requirements

Applicants must offer a B.Mus., or a B.A. or B.S. in music, or the equivalent from an accredited college or university completed with a grade point average of 3.00 or higher. Applicants must also offer course work including the liberal arts and sciences, one course in human development (child and adolescent development), and one course in philosophy of education. Matriculation is contingent upon admission to Brooklyn College and admission to the Conservatory of Music, including music performance audition, music education interview, theory/aural skills test, and transcript review, submission of Liberal Arts and Science Test (L.A.S.T.) scores, and TOEFL score of 550 or above if required.

Certificate requirements

Twenty-one credits are required for this certificate. The following courses are required.

Music 651T; Music 658.1T; Music 658.2T; Music 658.3T; three courses chosen from Music 660.1X–666.1X; Music 720.1X; Education 665X; and Education 665.1X.

CUNY Ph.D. and D.M.A.

The City University of New York offers a doctoral program in musicology, ethnomusicology, theory, composition, and performance. General information about CUNY Ph.D. and D.M.A. programs is in the chapter "About Brooklyn College."

The Conservatory of Music offers courses at Brooklyn College that are creditable toward the CUNY doctoral degree with permission of the executive officer of the doctoral program. For information about the courses, students should consult the assistant director and the executive officer of the doctoral program.

Walter W. Gerboth Music Library

Named in honor of its principal founder and first librarian, respected teacher and scholar Walter W. Gerboth, the library offers facilities for music study, research, and listening. The music library is located on the second floor of the Brooklyn College Library.

Established more than thirty years ago and augmented by substantial bequests, the collection comprises scores, collected works, phonograph recordings, tapes, compact discs, music and dance video cassettes, CD-ROMs, playback equipment for on-site listening, and general and specialized books about music and dance as well as a fine selection of periodicals, yearbooks, and online music reference works. Subject strengths lie in American music and performance scores. The collection is complemented by that of the Institute for Studies in American Music, 415 Whitehead Hall.

Courses

Unless a prerequisite is specific, students may apply graduate or undergraduate courses toward fulfillment of that prerequisite.

The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

604T Music for the Classroom Teacher

45 hours; 3 credits

Development of the musical background of the elementary school teacher. Exploration, presentation, and discussion of approaches to teaching music in elementary school. Demonstration of the techniques of Orff, Kodaly, and others. Listening and performing activities.

651T Music Education Colloquium

15 hours, 20 hours fieldwork; 0 credits

A colloquium for music education majors. Guest speakers, student and faculty presentations, discussions on current topics in music education. Required of music education majors each semester. Field experience in the public schools. Non-graded course.

658.1T Music in the Elementary School

45 hours, 30 hours supervised field experience; 3 credits

Techniques, methods, and materials used in teaching music in the elementary schools including instruction for pre-kindergarten children. Development and application of music, teaching, and observation skills; assessment and organization in the context of the overall elementary school music program; child development; diversity. Includes observation and supervised teaching in public schools.

Prerequisite: permission of the director.

Corequisite: Music 651T.

658.2T Music in the Secondary School

45 hours, 15 hours field experience; 3 credits

Study of techniques, methods, and materials used in teaching music in diverse, multicultural secondary schools, including choral and instrumental ensembles and general music courses. Recruitment, curriculum, materials analysis, assessment, adolescent development, technology, special learners, and current issues. Includes supervised field experience in public schools.

Prerequisite: permission of the director.

Corequisite: Music 651T.

658.3T Music in Special Education

45 hours, 15 hours field experience; 3 credits

Techniques, methods, and materials used in teaching music to special learners of different ages and developmental levels, especially in an inclusive classroom setting. Current issues. Field experience.

Corequisite: Music 651T.

660.IX Voice Production

30 hours; 2 credits

Technique of singing. Proper breathing, tone placement, legato scale, agility exercises. Attention to individual needs. Phrasing, diction, interpretation.

Prerequisite: an introductory course in sightsinging and dictation or permission of the director.

661.IX String Class: Violin and Viola

45 hours; 1 credit

Tuning, bowing, and positions for violin and viola. Practice in reading simple compositions. For beginners. Primarily for use in public school teaching. No previous knowledge of a stringed instrument required.

Prerequisite: ability to read music and permission of the director.

Corequisite: Music 651T.

662.IX String Class: Violoncello and Bass Viol

45 hours; 1 credit

Tuning, bowing, and positions for bass viol and violoncello. Practice in reading simple compositions. For beginners. Primarily for use in public school teaching. No previous knowledge of a stringed instrument required.

Prerequisite: ability to read music and permission of the director.

Corequisite: Music 651T.

663X Woodwind Class

45 hours; 1 credit

Mechanism, embouchure, and tone production of the flute, oboe, clarinet, bassoon. Practice in reading simple compositions. For beginners. No previous knowledge of a woodwind instrument is required. Primarily for use in public school teaching.

Prerequisite: ability to read music and permission of the director.

Corequisite: Music 651T.

664X Brass Class

45 hours; 1 credit

Fingering, embouchure, and tone production of the trumpet, French horn, trombone, tuba. Practice in reading simple compositions. For beginners. No previous knowledge of a brass instrument is required. Primarily for use in public school teaching.

Prerequisite: ability to read music and permission of the director.

Corequisite: Music 651T.

665X Percussion Class

45 hours; 1 credit

Principles of percussion technique. Practice in reading simple compositions. For beginners. No previous knowledge of a percussion instrument is required. Primarily for use in public school teaching.

Prerequisite: ability to read music and permission of the director.

Corequisite: Music 651T.

666.IX Fretted Instrument Class

45 hours; 1 credit

Tuning, sound production, and positions for fretted instruments (guitars and lutes). Practice in reading simple compositions. Primarily for use in public school teaching. No previous knowledge of a fretted instrument is required.

Prerequisite: ability to read music and permission of the director.

Corequisite: Music 651T.

U700G Bibliography and Research Techniques

45 hours; 3 credits

Study and evaluation of sources and bibliographical methods.

U701T Music Education Research Methods

45 hours; 3 credits

Introduction to music research. Reading, evaluating, applying music education and related research findings. Research techniques in music education. Includes data collection, codification, interpretation.

Prerequisite: permission of the director.

710.IX Choral Workshop

45 hours; 3 credits

Literature and technique pertaining to the development of school choral groups, including preparation and presentation of choral works for school choral ensembles.

Prerequisite: an undergraduate course in conducting or permission of the director.

712.IX Instrumental Workshop: Strings

45 hours; 3 credits

Techniques of playing the violin, viola, violoncello, string bass. Materials and repertoire for school string ensembles. (Not open to students who have completed Music 712X.)

Prerequisite: an undergraduate course in conducting or permission of the director.

712.2X Instrumental Workshop:**Woodwinds and Brass**

45 hours; 3 credits

Techniques of playing woodwind and brass instruments. Materials and repertoire for school wind ensembles.

Prerequisite: an undergraduate course in conducting or permission of the director.

715T General Music in Elementary and Secondary Schools

45 hours; 3 credits

Schools of thought related to teaching general music in elementary and secondary schools. Survey of appropriate classroom materials.

Prerequisite: permission of the director.

717T Foundations and Methods of Music Education

45 hours; 3 credits

Philosophical and historical foundations of music education. Methods, techniques, independent projects.

Prerequisite: permission of the director.

720.IX Conducting and Rehearsal Techniques

45 hours; 3 credits

Intensive practical instruction in conducting, rehearsal techniques, and materials applicable to vocal and instrumental performance ensembles in the public schools. Emphasis on conducting; score study; rehearsal planning, organization, and pacing; error detection and correction; student motivation; repertoire and concert programming; music performance curriculum; large and small choral and instrumental ensembles. Techniques for teaching heterogeneous choral and instrumental courses. Field observations and fieldwork in the public schools.

Prerequisite: permission of the director.

720.2X Advanced Conducting Seminar

45 hours; 3 credits

Conducting and rehearsing choral and instrumental literature in a laboratory setting.

731X Compositional Techniques

45 hours; 3 credits

Writing in various styles and media for the noncomposition major. (Not open to composition majors.)

Prerequisite: permission of the director.

U732.1X, U732.2X, U732.3X Seminar in Composition I, II, III

45 hours each term; 3 credits each term

Original writing in various media, instrumental and vocal.

Prerequisite of U732.1X: permission of the director.

Prerequisite of U732.2X: Music U732.1X and permission of the director.

Prerequisite of U732.3X: Music U732.2X and permission of the director.

735T Vocal and Instrumental Arranging

45 hours; 3 credits

Practical work in scoring for various ensembles. Independent projects.

Prerequisite: permission of the director.

U737.1G Computer Music I

45 hours; 3 credits

Fundamentals of computer use in music composition. Techniques of additive synthesis. Chowning frequency modulation, waveshaping. Completion of a short work is required. Computer facilities are available for student use. (Not open to students who have completed Music 737G.)

U737.2G Computer Music II

45 hours; 3 credits

Application of digital signal processing techniques to music composition. Computer analysis of sound and speech, digital filtering techniques, computer speech synthesis. Completion of a short work is required. Computer facilities are available for student use.

738X Jazz Arranging

45 hours; 3 credits

Practical work in scoring for various jazz ensembles.

Prerequisite: permission of the director.

U740G Seminar in Style Criticism

45 hours; 3 credits

The nature of musical style. Study of selected works, composers, schools of composition, historical eras.

U754X Seminar in Advanced Musicianship: Jazz

45 hours; 3 credits

Work in advanced ear-training, harmonic function, chordal progression, blues patterns, and vocabulary of jazz; aural and written transcriptions of improvisations; principles of major/minor, modal, pentatonic, altered, and whole-tone scale constructions; exploration of the relationship between improvisation and harmonic context.

Prerequisite: permission of the director.

The following Music seminars may be repeated for credit with a different topic, as indicated in the Schedule of Classes and approved by the director:

Music U760.3G–U760.6G Seminar(s) in Music History;

**Music U763.1G, U763.2G, U763.3X, U763.4X,
Music U764.1X, U764.2X, U765X, U765.1X,
Music U784X, 785X.**

U760.3G–U760.6G Seminar in Music History

45 hours each term; 3 credits each term

Investigation of general principles and specific phenomena pertaining to the period. Independent research. Topic to be announced.

U760.3G Baroque Era (1600 to 1750)

U760.4G Classic Era (1750 to 1820)

U760.5G Romantic Era (1820 to 1900)

U760.6G Twentieth Century

Prerequisite: Music U740G or the equivalent.

U763.1G Special Topics Seminar: History

45 hours; 3 credits

Intensive historical studies. Examination and evaluation of original sources. Topic to be announced.

Prerequisite: Music U740G or permission of the director.

U763.2G Special Topics Seminar: Theory

45 hours; 3 credits

Intensive theoretical studies. Examination and evaluation of original sources. Topic to be announced.

Prerequisite: Music U740G or permission of the director.

U763.3X Special Topics Seminar: Music Education

45 hours; 3 credits

Intensive study of specific issues and approaches in music education.

Prerequisite: permission of the director.

U763.4X Special Topics Seminar: Performance

45 hours; 3 credits

Intensive studies in music performance. Topic to be announced. May be repeated for credit with a different topic.

Prerequisite: permission of the director.

Prerequisite or corequisite: Music U740G.

Corequisite: Music U779.1X, U779.2X, U779.3X, or U795G.

U764.1X Seminar in Music Theory:**Analysis of Tonal Music**

45 hours; 3 credits

Intensive analysis of tonal music. Developing adequate theoretical concepts and analytic techniques.

U764.2X Seminar in Music Theory:**Analysis of Twentieth-Century Music**

45 hours; 3 credits

Intensive analysis of twentieth-century music. Developing adequate theoretical concepts and analytic techniques.

U765X Seminar in American Music

45 hours; 3 credits

American music from the colonial period to the present. Topic to be announced.

Prerequisite: Music U740G or the equivalent.

U765.1X Seminar in Jazz History

45 hours; 3 credits

Selected topics in the history of jazz, from its origins to the present. Research and analysis of recordings, transcriptions, and arrangements. Emphasis on social and cultural context. Students may take this course for credit twice, but may not repeat topics.

Prerequisite: Music U740G or the equivalent.

Music 770X through 778X may be taken for credit each term the student is enrolled.

770X Opera Workshop

45 hours; 1 credit

Study and performance of scenes from operas and operettas. Fundamentals of operatic technique. Coordination of singing and stage movement.

Prerequisite: audition.

771X Chorus

45 hours; 1 credit

Study and performance of choral literature for mixed voices.

Prerequisite: audition.

771.IX Chamber Chorus

45 hours; 1 credit

Study and performance of chamber chorus literature for mixed voices.

Prerequisite: audition.

772X Percussion Ensemble

45 hours; 1 credit

Study and performance of music for percussion ensemble.

Prerequisite: audition.

774X Chamber Music

45 hours; 1 credit

Study and performance of the standard repertoire.

Prerequisite: At least two terms (in any combination) of Music 774.1X, 774.2X, 774.3X, 774.5X, or 778X; and permission of the director.

774.IX Contemporary Music Ensemble

45 hours; 1 credit

Study and performance of contemporary music.

Prerequisite: audition.

774.2X Brass Ensemble

45 hours; 1 credit

Study and performance of music for brass ensemble.

Prerequisite: audition.

774.3X Woodwind Chamber Music

45 hours; 1 credit

Study and performance of music for woodwind chamber ensembles.

Prerequisite: audition.

774.5X Small Ensemble Jazz

45 hours; 1 credit

Study and performance of music for small jazz combo, including practical experience with jazz improvisation techniques and styles.

Prerequisite: audition.

776X Orchestra

45 hours; 1 credit

Study and performance of new and old literature.

Prerequisite: audition.

776.IX String Orchestra

45 hours; 1 credit

Study and performance of literature for string orchestra.

Prerequisite: audition.

777X Wind Ensemble

45 hours; 1 credit

Study and performance of new and old literature.

Prerequisite: audition.

778X Jazz Ensemble

45 hours; 1 credit

Study and performance of new and old jazz literature.

Prerequisite: audition.

779.1X, 779.2X, 779.3X Performance I, II, III

45 hours each term; 3 credits each term

Advanced performance in voice or an instrument. One hour a week of individual instruction. Weekly performance seminar.

Prerequisite of 779.1X: audition and permission of the director.

Prerequisite of 779.2X: Music 779.1X and audition and permission of the director.

Prerequisite of 779.3X: Music 779.2X and audition and permission of the director.

Corequisite of 779.1X, 779.2X, 779.3X: an ensemble performance course (Music 770X–778X) as assigned through audition and permission of the director.

U781.IX Piano Repertory Class

30 hours; 0 credit

Study of solo piano repertoire from the 1600s to the present through critique of student performance. Piano history, literature, performance practice, and performance. Practical application in solo performance settings as assigned. May be taken more than once.

Prerequisite: permission to take Music 779.1X–779.3X, U795G, or permission of the director.

Corequisite: Music 779.1X–779.3X, or U795G, as applicable.

781.2X String Repertory Class

30 hours; 0 credit

Performance by string majors of solo and chamber music repertory in a master-class setting. Guided discussion of important issues and areas of technique and interpretation to enhance optimal performance, increase self-confidence, and eliminate performance anxiety. Constructive observations and suggestions from class members, string faculty, and invited guests. Required of all string majors.

Prerequisite: permission of the director.

Corequisite: a course in the Music 779X sequence or Music 795X.

782.1X Accompanying at the Keyboard I

30 hours recitation, minimum 30 hours practicum; 3 credits

Skills for instrumental and vocal accompanying at the keyboard. Repertory includes instrumental sonatas, vocal songs, and orchestra reductions of string, wind, operatic, and choral literature. Transposition and score reading at sight. Practical application in performing situations, as assigned.

Prerequisite: Music 779.1X (in piano, organ, or harpsichord) and permission of the director.

U784X Seminar in Performance Practices

45 hours; 3 credits

Study of documents and instruments concerning the authentic performance practice of music from the seventeenth century through the twentieth century. Topic to be announced.

Prerequisite: Music U740G or the equivalent.

785X Ethnomusicology

45 hours; 3 credits

Instruction in ethnomusicological research techniques through study of a special culture or group.

Prerequisite: Music U740G or the equivalent.

786X History of Jazz

45 hours; 3 credits

Survey of styles, genres, and forms of jazz from its origin to the present. Analysis of selected works.

Prerequisite: Music U740G or the equivalent.

788.1X Music Internship

45 hours fieldwork; 1 credit

Supervised on- or off-campus work at least three hours per week in an office or classroom of a business, educational facility, or other agency providing professional experience in music, music performance, music education, or music research. Submission of a critical report on the experience. This course may be taken for credit twice, but students may not offer more than six credits from Music 788.1X, 788.2X, and 788.3X toward a degree.

Prerequisite: permission of the director of the Conservatory of Music. Permission requires advance approval from the internship site.

788.2X Music Internship

90 hours fieldwork; 2 credits

Supervised on- or off-campus work at least six hours per week in an office or classroom of a business, educational facility, or other agency providing professional experience in music, music performance, music education, or music research. Submission of a critical report on the experience. This course may be taken for credit twice, but students may not offer more than six credits from Music 788.1X, 788.2X, and 788.3X toward a degree.

Prerequisite: permission of the director of the Conservatory of Music. Permission requires advance approval from the internship site.

788.3X Music Internship

135 hours fieldwork; 3 credits

Supervised on- or off-campus work at least nine hours per week in an office or classroom of a business, educational facility, or other agency providing professional experience in music, music performance, music education, or music research. Submission of a critical report on the experience. This course may be taken for credit twice, but students may not offer more than six credits from Music 788.1X, 788.2X, and 788.3X toward a degree.

Prerequisite: permission of the director of the Conservatory of Music. Permission requires advance approval from the internship site.

U791.1X Independent Study

Hours to be arranged; 1 credit

Reading and research supervised by a faculty member.

Prerequisite: permission of the director.

U791.2X Independent Study

Hours to be arranged; 2 credits

Reading and research supervised by a faculty member.

Prerequisite: permission of the director.

U791.3X Independent Study

Hours to be arranged; 3 credits

Reading and research supervised by a faculty member.

Prerequisite: permission of the director.

U792T Master's Music Education Project

Hours to be arranged; 3 credits

Substantial project in music education supervised by a faculty member. Students register for this course only once. Credit is not earned until the completed project is accepted.

Prerequisite: approval of plan of work by music education coordinator or permission of the director.

U793X Thesis Research

Hours to be arranged; 3 credits

Research for master's thesis supervised by a faculty member. Students register for this course only once. Credit is not earned until the thesis is accepted.

Prerequisite: permission of the director.

U794G Master's Composition Project

Hours to be arranged; 3 credits

Completion of a substantial composition project supervised by a faculty member.

Prerequisite: approval of plan of work by student's graduate committee.

U795G Master's Recital

Hours to be arranged; 3 credits

Preparation of a master's recital supervised by a faculty member.

Prerequisite: approval of program and level of work by the student's graduate committee.

Corequisite: an ensemble course (Music 770X–778X) as assigned through audition and permission of the director.

The following courses are inactive and will be offered only if there is sufficient demand:

620.1T Musicianship for the Elementary School Specialist I**620.2T Musicianship for the Elementary School Specialist II****U705G Medieval Notation****U706G Renaissance Notation****734G Music for Dance, Film, and Theater****U752X History of Musical Styles I****U753X History of Musical Styles II****U760.1G Seminar in Music History: Medieval Era (to 1400)****U760.2G Seminar in Music History: Renaissance Era (1400 to 1600)****775X Collegium Musicum****776.2X Theater Orchestra****782.2X Accompanying at the Keyboard II****Performance and Interactive Media Arts**

Program office: 376 Gershwin Hall

Telephone: 951-4203

Web: www.interactivearts.org

Director: John J. A. Jannone

Faculty: from the Departments of Art, Computer and Information Science, Film, Television and Radio, and Theater, and the Conservatory of Music.

The Program in Performance and Interactive Media Arts (PIMA), a cooperative, interdisciplinary program of the Departments of Art, Computer and Information Science, Film, Television and Radio, and Theater, and the Conservatory of Music, offers an advanced certificate.

Advanced Certificate in Performance and Interactive Media Arts

HEGIS code: 1004

Matriculation Requirements

Applicants must offer a graduate or undergraduate degree from an accredited college or university completed with a grade point average of 3.00 or higher.

Applicants must also offer a portfolio of creative work (which may consist of work in any medium, including computer software), letters of recommendation, and TOEFL score of 550 or above if required. An interview with a member of the selection committee is strongly recommended. Matriculation is contingent upon admission to Brooklyn College.

Applicants must obtain and file an application form with the program director in addition to the regular college admission form.

Selection of applicants is based on a faculty committee review of the following: the applicant's creative portfolio, evidence of the applicant's interest in collaborative creative production, letters of reference indicating significant artistic promise, artistic background and experience, and the applicant's interview (if conducted).

Students should note additional requirements found in the sections "Admission" and "Academic Regulations and Procedures."

Certificate Requirements

Eighteen credits are required for this certificate. The following courses are required:

PIMA 701G, PIMA 702G, PIMA 703G.

Nine additional credits shall be chosen from selected PIMA elective courses offered by the PIMA program; the Departments of Art, Computer and Information Science, Television and Radio, and Theater; and the Conservatory of Music. Permission of the PIMA director is required.

To receive the Advanced Certificate in Performance and Interactive Media Arts, students will be required to complete

the program with a grade point average of 3.00 or better and have completed no more than three credits (one course) with a grade less than B.

Courses

The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

PIMA 701G Sound, Image, Space, and Performance; Interactive Media Programming I

30 hours lecture, 45 hours lab; 3 credits

Combines performance/electronic media production, electronic arts theory, and lab in interactive media programming. Projects include collaborative arts production, research project/presentation, and an interactive programming project. Open only to first-semester PIMA students.

PIMA 702G Artistic Process and Contemporary Community; Interactive Media Programming II

30 hours lecture, 45 hours lab; 3 credits

Combines community-based arts theory, electronic media production in a community venue, and a lab in interactive media programming. Projects include collaborative community production and an interactive programming project. Open only to second-semester PIMA students.

Prerequisite: PIMA 701G

PIMA 703G Collaborative Interactive Media Performance

45 hours lecture; 3 credits

Development, realization, and documentation of culminating collaborative PIMA project. Open only to third-semester PIMA students.

Prerequisite: PIMA 702G

PIMA 704G Independent Investigations in Interactive Media

45 hours lecture; 3 credits

Directed study in advanced electronic media research or production. Permission of the director of PIMA (and the chair of the instructor's department if the instructor is not PIMA faculty) required.

Prerequisite: PIMA 701G

Philosophy

Office: 3308 Boylan Hall

Telephone: 951-5311

Chairperson: Emily Michael

Professors: Adler, Michael;

Associate Professor: Vasiliou.

Programs leading to a master of arts degree and a doctor of philosophy degree in philosophy are offered by the City University of New York at the Graduate School and University Center, 33 West 42 Street, New York, New York 10036. Information about the program is in the Bulletin of the Graduate School and University Center.

The following courses are offered for students in other fields.

Courses

Students may apply graduate or undergraduate courses toward fulfillment of prerequisites.

The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

615X Values in the Modern World

45 hours; 3 credits

Philosophical examination of values in general and of different kinds of values (intellectual, aesthetic, religious, moral, social) as they are found in the modern world, with emphasis on contemporary American life. (Not open to students who have completed a course in theory of value.)

Prerequisite: a course in philosophy or permission of the chairperson.

753G Special Studies in Ethics, Aesthetics, Philosophy of Law, Philosophy of History, Philosophy of the State, or Philosophy of Religion

30 hours plus conference; 3 credits

Prerequisite: a course in philosophy.

754G Seminar in Ethics, Aesthetics, Philosophy of Law, Philosophy of History, Philosophy of the State, or Philosophy of Religion

30 hours plus conference; 3 credits

Prerequisite: a course in the subject of the seminar.

Physical Education and Exercise Science

Office: 107 Roosevelt Hall
Telephone: 951-5514

Chairperson: Charles J. Tobey
Deputy Chairperson, Division of Graduate Studies:
Vanessa Yingling;
Professors: Dunbar; Kleinman, Michielli, Tobey;
Associate Professor: Levitt (adjunct);
Assistant Professors: Chesler (adjunct), Shaw, Yingling, Zeng;
Lecturers: Butler (adjunct), Salciccioli (adjunct).

M.S. in physical education HEGIS code 0835

I. Concentration in psychosocial aspects of physical activity

This concentration is inactive. Students are advised to consult the department for further information.

Matriculation requirements

Applicants must offer at least 12 credits in physical education courses including course work in all of the following areas: philosophical perspectives of physical education (philosophy or history), behavioral perspectives (motor learning, sport psychology, or sociology of sport), movement perspectives (kinesiology or biomechanics), and human physiology; and 9 credits in psychology and/or sociology courses, or obtain approval from the department chairperson.

Applicants must submit to the graduate deputy a statement of academic interests, experience, and other relevant information including academic honors, scholarships, and publications. Materials should be received by the department before March 1 for fall admission and before November 1 for spring admission.

The department may require interviews of applicants for admission.

Degree requirements

Thirty credits are required for the degree.

Students must complete a minimum of 21 credits in physical education including Physical Education 753X, 754X, 758X, and 792X; a minimum of 9 credits chosen from Physical Education 742X, 743X, 759X, 760X, 764X, 768X, 779X, 780X (if thesis is elected), and 799.2X. In addition, students must complete 9 credits in courses in psychology and sociology chosen with the approval of the Physical Education and Exercise Science Department. Students may not take all 9 credits in the same department.

Students must pass a comprehensive examination or submit a thesis acceptable to the department. Information about the comprehensive examination is in the section "Academic Regulations and Procedures."

The program of study must be approved by the deputy chairperson.

2. Concentration in sports management

Matriculation requirements

Applicants must offer at least 12 credits in physical education courses including course work in all of the following areas: philosophical perspectives of physical education (philosophy or history), behavioral perspectives (motor learning, sport psychology, or sociology of sport), movement perspectives (kinesiology or biomechanics), and human physiology.

Degree requirements

Thirty credits are required for the degree.

Students must complete 18 credits in physical education: Physical Education 742X, 743X, 744X, 745X, 792X, and either Physical Education 780X (if thesis is chosen) or an elective in the department. Nine credits in courses in economics: Economics 609X, 701X, and one course chosen from 608X (formerly 709X) or 705X. Three credits in an elective course either in or out of the department as approved by the graduate deputy.

Students must pass a comprehensive examination or submit a thesis acceptable to the department. Information about the comprehensive examination is in the section "Academic Regulations and Procedures."

The program of study must be approved by the deputy chairperson.

M.S. in Ed., physical education teacher (all grades) HEGIS code 0835

The profession of teacher education is licensed by the New York State Education Department. Therefore, program requirements are subject to change. All students should consult with the School of Education for the current requirements.

Matriculation requirements

Applicants must offer 18 credits in courses in physical education as follows:

a) Course work in each of the following areas for a total of at least 12 credits: philosophical perspectives of physical education (philosophy or history), behavioral perspectives (motor learning, sport psychology, or sociology of sport), movement perspectives (kinesiology or biomechanics), and human physiology;

b) Course work in the theory and practice of teaching and coaching activities for a total of at least 6 credits.

Applicants must also offer (a) or (b) or (c):

(a) New York State Initial Certification in teaching physical education for all grades;

(b) courses in education that meet the New York State standards for the pedagogical core. These courses include study of the following: history of education and philosophy of education or principles of education or educational sociology; educational psychology or developmental psychology or psychology of adolescence or adolescent development;

classroom management; teaching students with special needs and English language learners; 6 credits in literacy and language acquisition; curriculum development and methods of assessing student learning; uses of technology in the classroom; methods of teaching physical education in all grades; 100 hours of fieldwork; 40 days or 300 hours of student teaching of physical education in all grades, or one year of full-time teaching of physical education in all grades; and submission of scores on the L.A.S.T.;

(c) an undergraduate degree with a major in physical education or appropriate course work in physical education, and submission of scores on the L.A.S.T.

Applicants must have a minimum undergraduate grade point average of 3.00. A minimum average of 3.00 in graduate courses is required to maintain matriculation.

Applicants who have not completed all the specific course requirements are given individual consideration and may be admitted with conditions, with the approval of the head of adolescence education and special subjects in the School of Education and the chairperson of the Department of Physical Education and Exercise Science.

International applicants for whom English is a second language are required to pass the Test of English as a Foreign Language (TOEFL) with a score of 550 before being considered for admission.

Applicants must consult matriculation requirements for adolescence education and special subjects in the School of Education section of the Bulletin, and should see the head of adolescence education and special subjects for counseling.

General matriculation and admission requirements of the Division of Graduate Studies are in the section "Admission."

Degree requirements

A minimum of 30 credits is required for the degree.

Students must complete 18 credits in courses in the Physical Education and Exercise Science Department. Students must take Physical Education 792X; an additional 9 credits chosen from Physical Education 744X, 750X, 751X, 752X, 753X, 754X, 755X, 756X, 757X, 758X, 759X, 764X, and an additional 6 elective credits in the department, but excluding Physical Education 745X and 765X.

Students must complete 12 credits in courses in the School of Education. Students take different education courses and sequences of courses depending on their previous course work, teaching experience, and the certificates they hold. Students who possess Initial Certification in teaching physical education must complete 9 credits in Group II and 3 credits in Group III, below. Students who do not possess Initial Certification in teaching physical education or equivalent course work and teaching experience or who are teaching but do not possess Initial Certification in teaching physical education must have the appropriate course work and credits in the subject area and must complete the appropriate courses in Group I before taking courses in Groups II and III,

below. Students pursuing Initial Certification in teaching physical education must take ED 792.2X, Teaching Writing Across the Curriculum, in Group III. Students who already have a master's degree but wish Initial Certification in teaching physical education must take appropriate courses in Group I and Group III below, as determined at the time of matriculation by the head of adolescence education and special subjects in the School of Education.

Group I: ED 742X, ED 792.1X, ED 763.13T, ED 764.5T, ED 723.13T, ED 764.51T.

Group II: ED 742.2T, ED 722.13T, ED 724.13T.

Group III: ED 716X, ED 721.13T, ED 726.1X, ED 731.3T, ED 751.2T, ED 751.1T, ED 784.2X, ED 792.2X, ED 792.4X/ENG 779X, ED 796X/THE 741, ED 799.5X.

Students must pass a comprehensive examination or submit a thesis acceptable to the Department of Physical Education and Exercise Science. Information about the requirements for the comprehensive examination and thesis is in the section "Academic Regulations and Procedures."

Courses in the Physical Education and Exercise Science Department and the School of Education offered toward the degree must be 700-level courses.

The program of study must be approved early in the first semester by the chairperson or deputy chairperson of the Physical Education and Exercise Science Department and the head of adolescence education and special subjects in the School of Education.

M.S. in exercise science and rehabilitation

HEGIS code 1299.30

Matriculation requirements

Applicants must offer at least one undergraduate course in each of the following: human physiology, human anatomy, physiology of exercise, kinesiology. A course in physics and a course in chemistry are recommended. Students must also demonstrate proficiency in basic techniques of weightlifting and body conditioning. This may be done by completion of a course in the subject, appropriate certification by a nationally recognized organization (e.g., NSCA), or proof of at least one year of practical experience in the field.

Applicants for matriculation who meet the general matriculation requirements of the college may be accepted for matriculation conditionally. A graduate student may meet such matriculation conditions by completing appropriate courses in the Brooklyn College undergraduate division.

Degree requirements

Thirty-six credits are required for the degree.

Students must complete all of the following: Physical Education 743X, 759X, 760X, 762X, 763X, 765X, 767X, 779X, 780X or 799.2X, and 792X, and any two of the following: Physical Education 742X, 744X, 754X, 764X or 768X, 758X, and 761X. Students who have successfully

completed an undergraduate course in Exercise Testing and Prescription may take an additional elective in place of 743X.

Students must submit a thesis acceptable to the department or pass a comprehensive examination. Information about the requirements for the comprehensive examination and thesis is in the section "Academic Regulations and Procedures."

Courses

To register for courses numbered 700 and higher, students who offer fewer than 12 undergraduate credits in physical education must have permission of the deputy chairperson before registration.

Unless a prerequisite is specific, students may apply graduate or undergraduate courses toward fulfillment of that prerequisite.

The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

Recreation and park administration

752X Facilities and Equipment in Physical Education and Recreation

30 hours plus conference; 3 credits

(See course description under heading "Physical education and psychosocial aspects of physical activity.")

Sports management

742X Principles of Sports Management

30 hours plus conference; 3 credits

Business administration practices as they relate to sports and athletics. Overview of the field of sports management. Suggested directions for the future. Emphasis on the practical and contemporary aspects of the field. (This course must be taken before the completion of 12 credits in the program.) (Not open to students who are enrolled in or have completed Physical Education 766X.)

743X Applications of Exercise and Fitness Theory

30 hours plus conference; 3 credits

Examination of exercise theory, psychological aspects of physical activity, and current fitness trends. Application of theory to the development and implementation of fitness programs in industrial, commercial, and educational settings.

744X Sport and the Law

30 hours plus conference; 3 credits

Legal concepts and their application to sports. Consideration of constitutional requirements, tort, contract and commercial laws as they relate to the sports professional and participant. Special topics highlighting such developing law as product liability, worker's compensation, and Titles VII and IX are included. (Not open to students who are enrolled in or have completed Physical Education 766X.)

745X Sports Management Internship

15 hours seminar, 90 hours fieldwork; 3 credits

Supervised sports management internship experience. Development of competencies in sports management in an approved agency and under the direction and supervision of agency personnel and a member of the college faculty.

Prerequisite: Physical Education 742X.

Physical education and psychosocial aspects of physical activity

750X Physical Education and Athletics in Education and Society

30 hours plus conference; 3 credits

Historical and philosophical study of physical education and athletics in education and society.

753X Sociology of Sport

30 hours plus conference; 3 credits

Sport in American society. Sport in relation to education, leisure, social stratification, social mobility, race, sex. Socioeconomic dimensions of sport. Literature on the sociology of sport.

754X Sport Psychology

30 hours plus conference; 3 credits

Factors influencing the relationship of sport to personality. Selected personality theories; the coach-player relationship; minority groups in sport; aggression; personality characteristics of athletes competing in various sports. Independent projects. Current literature.

755X Administration of Athletics

30 hours plus conference; 3 credits

Coordination of procedures for success in athletics. Programs, budgets, legal aspects, coaching, training, medical supervision, rehabilitation.

756T Supervision in Physical Education

30 hours plus conference; 3 credits

Techniques of supervision in junior and senior high school. Attention to in-service training of personnel; relations with principals, administrators, the community.

Prerequisite: a graduate course in physical education and a minimum of a year of teaching experience.

757X Physical Education Curriculum in Secondary School

30 hours plus conference; 3 credits

Fundamental principles for curriculum development. Sources and criteria for content selection and organization in required classes, atypical classes, intramural sports, interscholastic athletics for urban and suburban schools.

758X Motor Learning and Human Performance

30 hours plus conference; 3 credits

Behavioristic and cognitive theories related to the acquisition of gross motor skills. Application of research findings to the teaching of motor skills.

759X Advanced Physiology of Exercise

15 hours lecture, 30 hours laboratory; 3 credits

Effects of exercise on humans. Selected topics in circulation, respiration, muscle physiology, thermoregulation, energy metabolism.

768X Psychology of Physical Activity, Exercise Science, and Sports Medicine

30 hours plus conference; 3 credits

Psychology of physical activity as it affects designing, prescribing, and directing exercise programs. Special focus on maximizing exercise adherence in recreational, corporate, commercial, and therapeutic settings. Emphasis on the psychological benefits of exercise and the needs of specific populations. Exercise addiction, psychological bases of exercise injuries, performance enhancement.

Prerequisite: a course in the psychology of sport and physical activity.

Exercise science and rehabilitation**759X Advanced Physiology of Exercise**

15 hours lecture, 30 hours laboratory; 3 credits

(See course description under heading "Physical education and psychosocial aspects of physical activity.")

760X Exercise Prescription for Special Populations

45 hours; 3 credits

Theory of individualized exercise programs for specific populations: cardiovascular; neuromuscularly impaired, diabetic, pediatric, geriatric, dialysis patients.

761X Advances in Cardiology

45 hours; 3 credits

Invasive and noninvasive tests that assess cardiovascular function. Topics include cardiac catheterization, radionuclide studies, wall motion studies, echocardiography.

762X Electrocardiography

45 hours; 3 credits

Fundamentals of the physiological basis of the electrical activity of the heart. Cardiac rate, rhythm, hypertrophy, axis, infarct, electrolyte abnormalities, and conduction. Evaluation of exercise electrocardiograms of healthy and of diseased hearts.

763X Biomechanics

45 hours; 3 credits

The study of human motion and its underlying physical principles. Examination of forces that act on the human body

and their effects on muscles, bones, and joints. Applications to physical therapy, rehabilitative medicine, and sports techniques. (Not open to students who are enrolled in or have completed Physics 690X.)

Prerequisite: a course in kinesiology.

764X Prevention, Recognition, and Care of Injuries in Active Populations

45 hours; 3 credits

Theories and principles of therapeutic modalities as they relate to the injured athlete.

Prerequisite: Physical Education 763X or Physics 690X.

765X Internship in Exercise Science and Sports Medicine

15 hours seminar, 90 hours fieldwork; 3 credits

Development of skills in exercise science and sports medicine in an approved setting (hospital, rehabilitation program) under the direction and supervision of agency personnel and a member of the college faculty.

Prerequisite: Physical Education 762X and 767X.

767X Cardiopulmonary Rehabilitation

45 hours; 3 credits

Physiological, medical, administrative, and practical guidelines for conducting a comprehensive rehabilitation program for individuals with various cardiopulmonary diseases.

Prerequisite: Physical Education 762X.

779X Nutrition and Exercise

30 hours plus conference; 3 credits

Exploration of human nutritional requirements of exercise; the significance of intermediary metabolic pathways and the effect of dietary manipulation on exercise performance. (This course is the same as Health and Nutrition Sciences 779X.)

Prerequisite: a college level course in human or animal physiology.

Research courses**780X Thesis Research**

Hours to be arranged; 3 credits

Research for master's thesis supervised by a faculty member. Credit is not earned until the thesis is accepted. Students register for this course only once.

Prerequisite: permission of the chairperson.

792X Research Seminar: Physical Education and Athletics

30 hours plus conference; 3 credits

Critical analysis of selected problems and research methods in physical education, safety, psychosocial aspects of physical activity, sports management, and exercise science and rehabilitation. Utilization of original sources. Written report on investigation of a problem.

799.2X Special Problems: Physical Education and Athletics

45 hours; 3 credits

Tutorial study with a faculty member in a subject in which formal course work is not offered. Independent reading, reports, and/or fieldwork. Discussion and examinations by arrangement with the instructor.

The following courses are inactive and will be offered only if there is sufficient demand:

751X Kinesiotherapy for the Handicapped and Disabled

752X Facilities and Equipment in Physical Education and Recreation



Physics

Office: 3438 Ingersoll Hall

Telephone: 951-5418

Chairperson: Peter M.S. Lesser

Deputy Chairperson, Division of Graduate Studies and SGS:

Ming-Kung Liou

Professors: Bond, Celenza, Franco, Krieger, Lesser, Liou, Sahni, Schwartz, Shakin, Sobel, Tomkiewicz, Tung;

Associate Professor: Miyano.

Assistant Professors: Chen, Holden.

The Physics Department offers a master of arts degree program in physics and a master of arts degree program for physics teacher (grades 7–12). Some courses may be creditable toward the CUNY doctoral degree. For information, students should consult the department's deputy for graduate studies.

M.A. in physics HEGIS code 1902

Standard physics sequence

This sequence is the traditional course of study intended for students who are likely to continue on to the Ph.D. degree in physics.

Matriculation requirements

Applicants must offer at least 12 credits in physics beyond general physics and at least 9 credits in mathematics beyond elementary integral calculus.

General matriculation and admission requirements of the Division of Graduate Studies are in the section "Admission."

Degree requirements

Thirty credits are required for the degree.

Students must complete 22 credits in courses in the Physics Department. The following courses are required: Physics U701X, U711X, U715X, U725X, and U771X. In exceptional cases, the graduate physics committee may waive required courses or prerequisites.

With permission of the committee, the remaining credits required for the degree may be in courses in any department.

If they have been completed with a grade of B or higher and have not been counted toward the undergraduate degree, physics courses numbered 60 through 69 in the Brooklyn College Undergraduate Bulletin corresponding to U600 courses in the City University Graduate Bulletin, or their equivalent, may be offered toward the master's degree.

Students must pass a comprehensive examination or submit a thesis, the choice to be made in consultation with the deputy chairperson. The first doctoral examination of the CUNY Ph.D. program may be substituted for the comprehensive examination. Students who choose to write a thesis must take a course or courses in the series Physics 700.1G, 700.2G. No more than 4 credits in this series may be offered toward the degree.

Information about requirements for the comprehensive examination and thesis is in the section "Academic Regulations and Procedures."

Graduate courses in the Physics Department offered toward the degree must be 700-level courses.

The program of study must be approved by the graduate physics committee.

M.A., physics teacher (7–12) HEGIS code 1902-01

The profession of teacher education is licensed by the New York State Education Department. Therefore, program requirements are subject to change. All students should consult with the School of Education for the current requirements.

Matriculation requirements

Applicants must offer at least 12 credits in physics beyond general physics.

Applicants must also offer (a) and (b) or (c):

(a) New York State Initial Certification in physics for grades 7–12;

(b) courses in education that meet the New York State standards for the pedagogical core. These courses include study of the following: history of education and philosophy of education or principles of education or educational sociology; educational psychology or developmental psychology or psychology of adolescence or adolescent development; classroom management; teaching students with special needs and English language learners; 6 credits in literacy and language acquisition; curriculum development and methods of assessing student learning; uses of technology in the classroom; methods of teaching physics in grades 7–12; 100 hours of fieldwork, 40 days or 300 hours of student teaching of physics in grades 7–12, or one year of full-time teaching of physics in grades 7–12; and submission of scores on the L.A.S.T.;

(c) an undergraduate degree with a major in physics or appropriate course work in physics, and submission of scores on the L.A.S.T.

Applicants must have a minimum undergraduate grade point average of 3.00. A minimum average of 3.00 in graduate courses is required to maintain matriculation.

Applicants who have not completed all the specific course requirements may be given individual consideration and may be admitted with conditions, with the approval of the head of adolescence education and special subjects in the School of Education and the chairperson of the Physics Department.

International applicants for whom English is a second language are required to pass the Test of English as a Foreign Language (TOEFL) with a minimum score of 550 before being considered for admission.

Applicants must consult matriculation requirements for adolescence education and special subjects in the School of

Education section of the *Bulletin*, and should see the head of adolescence education and special subjects for counseling.

General matriculation and admission requirements of the Division of Graduate Studies are in the section "Admission."

Degree requirements

A minimum of thirty credits is required for the degree.

Students must complete 12 credits in courses in the Physics Department including 6 credits in courses on the 700 level.

Students must complete 12 credits in courses in the School of Education as described below. The remaining credits required for the degree may be in courses taken in any department. Students take different education courses and sequences of courses depending on their previous course work, teaching experience and the certificates they hold.

Students who possess Initial Certification in teaching physics must complete 9 credits in Group II, and 3 credits in Group III, below. Students who do not possess Initial Certification in teaching physics or equivalent course work and teaching experience or who are teaching but do not possess Initial Certification in teaching physics must have the appropriate course work and credits in the subject area and must complete the appropriate courses in Group I before taking courses in Groups II and III, below. Students pursuing Initial Certification in teaching physics must take Education 792.2X, Teaching Writing Across the Curriculum, in Group III. Students who already have a master's degree but wish Initial Certification in teaching physics must take appropriate courses in Group I and Group III below, as determined at the time of matriculation by the head of adolescence education and special subjects in the School of Education.

Group I: ED 742X, ED 792.1X, ED 763.04T, ED 764.5T, ED 723.04T, ED 764.5IT.

Group II: Education 742.2T, ED 722.04T, ED 724.04T.

Group III: Education 716X, ED 721.04T, ED 726.1X, ED 731.3T, ED 751.2T, ED 784.2X, ED 792.2X, ED 792.4X/ENG 779X, ED 796X/THE 741, ED 799.5X.

Students must pass a comprehensive examination or submit a thesis acceptable to the Department of Physics, the choice to be made in consultation with the deputy chairperson of the Physics Department. Information about requirements for the comprehensive examination and the thesis is in the section "Academic Regulations and Procedures."

The program of study must be approved early in the first semester by the chairperson or deputy chairperson of the Physics Department and the head of the adolescence education and special subjects in the School of Education.

CUNY Ph.D.

The City University of New York offers a doctoral program in physics. General information about CUNY Ph.D. programs is in the chapter "About Brooklyn College."

The Physics Department at Brooklyn College is a full participant in the Ph.D. program. It offers a complete

sequence of courses that are creditable toward the CUNY doctoral degree, and a wide range of research opportunities in fulfillment of the doctoral dissertation requirements for that degree. For information about the courses, students should consult the graduate deputy chairperson of the Physics Department and the executive officer of the Ph.D program in physics.

Honor Society

Sigma Xi, the Scientific Research Society, encourages original investigation in the natural sciences, pure and applied. The fields of activity of the society include the physical sciences, the life sciences, the earth sciences, and mathematics. The Brooklyn College Chapter elects students to associate membership in the society on the basis of academic excellence and marked aptitude for research in one of the fields listed above.

Courses

Unless a prerequisite is specific, students may apply graduate or undergraduate courses toward fulfillment of that prerequisite.

The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

700.1G, 700.2G Thesis Research

30 hours each term; 2 credits each term

Research for master's thesis supervised by a faculty member. No more than 4 credits may be counted toward the degree. Credit is not earned until the thesis is accepted.

U701X Mathematical Methods in Physics I

45 hours plus conference; 4 credits

Topics in complex variables. Perturbation and variational methods for solution of differential equations. Green's functions. Eigenfunction expansions. Integral transforms. Integral equations. Difference equations. Linear algebra. Hilbert space. Tensor analysis. Group theory. Higher algebra. Numerical methods for solving equations.

Prerequisite: a course in analytical mechanics.

U702X Mathematical Methods in Physics II

45 hours plus conference; 4 credits

Continuation of Physics U701X.

Prerequisite: Physics U701X.

U711X Analytical Dynamics

45 hours plus conference; 4 credits

Linear vector spaces. Small oscillations. Rigid bodies, including Euler's angles. Hamiltonian theory, including Hamilton's principle, Hamilton's equations, contact transformations. The Hamilton-Jacobi method; infinitesimal contact transformations; further development of transformation theory; special applications. Continuous media and fields. Introduction to special relativity theory.

U715X Electromagnetic Theory I

45 hours plus conference; 4 credits

Electrostatics, magnetostatics, boundary value problems. Maxwell's equations. Multipole radiation. Radiation from accelerated charges. Scattering theory. Special theory of relativity.

Prerequisite: Physics U701X and U711X; or an introductory course in electromagnetic theory.

U716X Electromagnetic Theory II

45 hours plus conference; 4 credits

Continuation of Physics U715X.

Prerequisite: Physics U715X.

U725X Quantum Mechanics I

45 hours plus conference; 4 credits

Historical foundations. The Schrodinger formulation. Wave packets and uncertainty principle. Harmonic oscillator and potential barrier problems. WKB approximation. Operators and eigenfunctions. Central forces and orbital angular momentum. Scattering: Born approximation, partial waves. Linear vector spaces. The Heisenberg formulation. Spin and total angular momentum. Perturbation theory: bound state, time dependent. Systems of identical particles. Introduction to relativistic quantum mechanics.

Prerequisite: a course in mathematical methods in physics.

U726X Quantum Mechanics II

45 hours plus conference; 4 credits

Continuation of Physics U725X.

Prerequisite: Physics U725X.

U730X Atomic Physics

45 hours plus conference; 4 credits

Spin systems, angular momentum, spectra. Atomic beam resonance, nuclear magnetic resonance (NMR), electron paramagnetic resonance (EPR), optical pumping, scattering, lasers.

Prerequisite: Physics U716X and U725X.

U735X Nuclear Physics

45 hours plus conference; 4 credits

Properties of stable nuclei. Isotopes. Mass formula. Interactions with matter. Methods of detection. Nuclear moments. Alpha decay. Gamma emission. Level structure. Nuclear models. Low-energy nucleon-nucleon scattering. The deuteron. Photodisintegration. Tensor and exchange forces. Isotopic spin.

Prerequisite: Physics U725X.

U736X Particle Physics

45 hours plus conference; 4 credits

Pi mesons, pion-nucleon scattering, resonances. Hadron level systematics and decays. Effective Hamiltonians; electromagnetic interactions and form factors. Higher

170 Physics

symmetries. Scattering at very high energies. Weak interactions, beta decay, discrete symmetries, TCP. Weak interactions of pions and kaons. Coherent regeneration. Conserved vector current. Leptonic decays of baryons and nonleptonic decays.

Prerequisite: Physics U735X.

U745X Solid-state Physics

45 hours plus conference; 4 credits

Principles of crystallography: crystal structure, lattice vibrations, band theory, defects. Ionic crystals; dielectrics; magnetism; free electron theory of metals and semiconductors.

Prerequisite: Physics U725X.

U757X Astrophysics

45 hours plus conference; 4 credits

Interstellar medium. Gaseous nebulae and dust clouds. Stellar atmosphere and stellar interiors. Stellar spectra, energy transfer; opacity. Nuclear reactions and matter under extreme conditions. Stellar evolution; synthesis of chemical elements; neutrino processes; radio astronomy.

Prerequisite: an introductory course in modern physics.

U771X Graduate Physics Laboratory

45 hours; 2 credits

Advanced experimental work in one or more fields of physics. Planning experiments. Design and construction of apparatus. Evaluation of experimental results in the fields of optics and X rays, electronics, atomic and nuclear physics. Students may take this course twice but may not repeat topics. (Not open to students who have completed the same topic in Physics U772X.)

780.1X, 780.2X Advanced Study

30 hours each term; 2 credits each term

Tutorial study with a faculty member in an area in which formal course work is not offered.

Prerequisite: permission of the deputy chairperson.

781.1X, 781.2X Introductory Laboratory Research

30 hours each term; 2 credits each term

Intended for students who want to explore the feasibility of different research problems before choosing a thesis topic.

Prerequisite: permission of the deputy chairperson.

The following courses are inactive and will be offered only if there is sufficient demand:

601T, 602T, 603T Physics for Junior High School Teachers I, II, III

605T Concepts and Theories of Modern Physics

620T Modern Topics in Physical Science

690X Biomechanics

713X Electronics

714X Advanced Optics

Political Science

Office: 3413 James Hall

Telephone: 951-5306, 951-5307

Chairperson: Sally Bermanzhon

Deputy Chairperson, Graduate Program in Political Science:

Mark D. Ungar

Deputy Chairperson, Worker Education Program: Joseph Wilson

Professors: Farber, Wilson;

Associate Professors: Bermanzhon, Currah, Fuccillo, London, Ness, Okome, Ungar;

Assistant Professors: Alonso, Johnson, Robin, Theoharis.

Distinguished Lecturer: González.

The Department of Political Science offers a master of arts degree program in political science with a concentration in either political science or urban policy and administration.

The department also participates in the following programs:

- 1) a joint J.D.-M.A. degree program with Brooklyn Law School (see below); 2) the CUNY Ph.D. program (see below); 3) the master of arts degree program for social studies teacher (7-12) (see section "Social Studies"); and 4) a concentration in health care policy and administration in the master of public health degree program in community health (see section "Health and Nutrition Sciences").

M.A. in political science HEGIS code 2207

Matriculation requirements

Applicants must offer a minimum of 24 credits in courses in political science, government, history, economics, sociology, or related fields.

General matriculation and admission requirements of the Division of Graduate Studies are in the section "Admission."

Degree requirements

Students must complete requirements in one concentration as follows:

Political Science: The requirements for the concentration in political science are:

(1) *Credits:* Thirty credits, all from 700-level courses, are required. With permission of the deputy chairperson, a maximum of 9 credits for the degree may be from approved courses from other departments, and a maximum of 9 credits for the degree may be from approved graduate courses completed in other universities.

(2) *Distribution:* Courses are grouped into four areas of study: American government, comparative politics, international relations, and political theory. The statistics course does not count for the political theory requirement. A minimum of 9 credits must be from one of these areas, which will be the student's specialization, and a minimum of 3 credits from each of the other three areas.

(3) *Statistics or Language:* Students must either take an approved course in statistics, in political science or another graduate program, or pass a language examination in one of the following languages (other than the student's native

language): Spanish, French, Portuguese, German, Russian, Arabic, Mandarin, Cantonese, Swahili, or another major international language approved by the deputy chairperson. Three credits are given for a statistics course; no credits are given for the language examination.

(4) *Comprehensive Examination or Thesis:* After completing a minimum of 21 credits, students must either take a comprehensive examination or write a thesis. The examination consists of two essay questions: one in the student's area of specialization (see Distribution requirement above) and one in any other area of the student's choice. Students have a choice of questions in each area but must pass both to pass the examination. No credits are given for the comprehensive examination. The thesis, taken as course 791X for 3 credits, consists of an eighty-page original research project. To be approved for this course, students must present a clear project description and plan for completion to a faculty member, who will approve registration for 791X and direct the thesis. Students with a GPA under 3.50 are not encouraged to write a thesis.

For more information on the comprehensive examination or thesis, see the deputy chairperson.

Urban policy and administration: Thirty-three credits are required for the concentration in urban policy and administration. The following courses are required: Political Science 700X, 717X, 740X, 751X, and 757X. The remaining 21 credits required for the degree may be chosen from courses in the Political Science Department. With permission of the deputy chairperson, a maximum of 9 credits may be in courses in related departments. Political science courses at the Hudson Street site will be enhanced and augmented from a labor relations perspective and academic focus. Each student's program of study must be approved by the deputy chairperson for the Worker Education Center.

Students enrolled in the M.A. degree program in political science who have elected the urban policy and administration concentration will be required to complete 33 credits including Political Science 717X.

J.D.-M.A. in law and political science

HEGIS code 2207/1410-10

Brooklyn College and Brooklyn Law School offer a joint program for students who have been admitted separately to both Brooklyn Law School and Brooklyn College. Students may apply to this program only after admittance to Brooklyn Law School. Once in the program, students must fulfill all requirements for both M.A. and J.D. programs, but can apply certain courses from each school for credit in both programs. Students who complete the program receive a J.D. degree from Brooklyn Law School and an M.A. degree from Brooklyn College. For more information, please contact the deputy chairperson and Brooklyn Law School.

CUNY Ph.D.

The City University of New York offers a doctoral program in political science. General information about CUNY Ph.D. programs is in the chapter "About Brooklyn College."

The Political Science Department offers courses at Brooklyn College that may be credited toward the CUNY Ph.D. with permission of the doctoral program. For information, students should contact the CUNY Graduate Center.

Courses

Registration for courses numbered 700 and higher requires matriculation in the Political Science M.A. program, a nonmatriculated or provisional status in the Political Science Program, or permission of the chairperson or deputy chairperson.

The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

Political theory

700X Methodology: Statistical Concepts in Political Science

30 hours plus conference; 3 credits

Application of probability theory and inferential statistics in political science. Use of statistical techniques in such areas as public opinion, voting and legislative behavior, comparative politics. Quantitative applications on class stratification, labor/race census data, union demographics, contact models. SPSS applications.

701X Ancient and Medieval Political Thought

30 hours plus conference; 3 credits

Analytical and historical examination of principal political thinkers from Plato through Machiavelli. Topics to be considered include: the role of virtue and political participation; classical theories of democracy, aristocracy, and monarchy; the Christian critique of ancient politics; the breakdown of the Christian worldview; the rise of modernity. Theorists may include Plato, Aristotle, Augustine, Aquinas, Al-Farabi, Maimonides, and Machiavelli.

702X Modern Political Thought

30 hours plus conference; 3 credits

Analytical and historical examination of principal political thinkers from the sixteenth century through the nineteenth century. Topics to be considered include: the rise of liberalism and radical democratic theory; the conservative critique of revolutionary politics; the idea of rights and toleration; the rise of capitalism and Marxist criticism; the impact of Nietzsche. Theorists may include Hobbes, Locke, Rousseau, Wollstonecraft, Smith, Tocqueville, Marx, and Nietzsche.

703X American Political Thought

30 hours plus conference; 3 credits

An introduction to the development and evolution of American political ideas and what they mean for America. Topics to be covered include: revolution and constitutionalism; capitalism, liberty and equality; social Darwinism and industrial capitalism; social democracy and neoconservatism; feminism, racism, and multiculturalism.

704X Counter-Revolution

30 hours plus conference; 3 credits

Studies the origins and nature of counterrevolutionary thinking and politics. Focuses on counterrevolutionary hostility to progressive politics—whether liberal, democratic, or revolutionary. Examines the role of counterrevolutionary arguments in contemporary American politics.

705X Fear in Politics

30 hours plus conference; 3 credits

Examines the role of fear in politics. Readings from political theory (e.g., Hobbes, Montesquieu, Tocqueville, Arendt, Foucault), literature (e.g., Brecht, Solzhenitsyn, Kafka), and history. Focus on relationship between fear and the state, civil society, the workplace, and other private spheres. Case studies from the United States, Latin America, Soviet Union, and Nazi Germany.

710X Twentieth-Century Political Thought

30 hours plus conference; 3 credits

Examination of leading schools of political thought in the twentieth century, including Marxism, liberalism, democratic theory, feminism, and poststructuralism. Particular focus on the nature of the state; the status and definition of rights; the tension between participation and individualism; the nature of class power and gender relations; the problems of imperialism and postcolonialism.

713G Methodology: Theory and Methodology in Political Science

30 hours plus conference; 3 credits

Selective approach to problems of theory and methodology in the study of government and politics. Alternative patterns of analysis of political behavior. Research findings and methods of other social sciences.

714X Theory of Anti-Capitalist Movements

30 hours plus conference; 3 credits

Various theories of socialism and communism. Marx and the Marxists. Non-Marxist socialist thought. The course will examine the relationship between changing theoretical doctrines and political movements. Possible topics to be discussed include: the genesis of worker consciousness; the role of internal democracy in mass movements; the state of anticapitalist thinking and movements today.

715X Organization Theory

30 hours plus conference; 3 credits

Theories of organization. Problems regarding public

organizations. Concepts of authority, hierarchy, status, leadership.

716X Methodology: Empirical Political Science

30 hours plus conference; 3 credits

Uses of quantitative methods in political research. Methodological problems of such techniques as factor analysis, experimental and interview design, survey research and content analysis, probability theory, simulation, and game theory. Implications for theory building in political science.

Prerequisite: an undergraduate course in statistics.

717X Master's Seminar

30 hours plus conference; 3 credits

A guided research experience designed to allow students to conceptualize, organize, and complete a major policy paper. Class sessions will focus on problem identification and issues involving policy analysis. Students will be required to identify a policy problem, choose an applicable model for evaluating the problem, and complete a thirty- to forty-page policy paper containing a series of policy recommendations. Labor topics and labor-oriented policy analysis will be encouraged. Students will submit various pieces of the project according to a prearranged schedule. The class will be organized as a workshop to provide systematic feedback and direction of the various papers.

Prerequisite or corequisite: completion of 24 credits with a B average.

718X Ethics and Politics

30 hours plus conference; 3 credits

Ethical issues as they arise within the context of government and politics with the aim of improving students' ability to think ethically about the means and ends of public policy and the behavior of public officials. Such topics as the following will be addressed: the use of deception in public life; the use of citizens as a means to governmental policy and the moral accountability of individual public officials; whistleblowing; and the ethical components in assessing such objectives of government as: distributive justice, equal opportunity, and nuclear deterrence.

719.IX Selected Topics in Political Theory

30 hours plus conference; 3 credits

Topic varies from term to term. Students may take this course four times, but may not repeat topics. (Not open to students who have completed the same topic in Political Science 719.2X, 719.3X, or 719.4X.)

American government

720X U.S. Constitutional Law I

30 hours plus conference; 3 credits

Relation of the judicial process and constitutional law to the political process in the United States. Judicial review; federalism. Separation and delegation of powers.

721X U.S. Constitutional Law II

30 hours plus conference; 3 credits

Civil liberties; civil rights; due process; equal protection of the laws.

722X Criminal Justice and Public Policy

30 hours plus conference; 3 credits

An analysis will be made of criminal justice decision making and crime policy by exploring contemporary empirical research. Institutions covered will include the police department, bar associations, the courts, and correction agencies. Crime control strategies to be analyzed include: deterrence, incapacitation, rehabilitation, decriminalization, diversion, and fortressing. Specific examples of actual or proposed policies to be studied are reduction of plea bargaining, mandatory imprisonment, elimination of parole, saturation policing, and capital punishment.

724G Computer Applications in Political Science

30 hours plus conference; 3 credits

Current use and potential applications of computers in political science. Emphasis on urban problems.

730X U.S. Party System

30 hours plus conference; 3 credits

The nature and function of U.S. political parties and interest groups and their growth and decline; the electoral process, organization and leadership, decision making; labor in the two-party system; labor and working-class electoral tendencies; labor and independent politics.

731X Policy Formulation in U.S. Government

30 hours plus conference; 3 credits

The changing nature of federalism and of the separation of powers as related to major problems facing the United States.

732X The Presidency in the United States

30 hours plus conference; 3 credits

The presidency as an office of national and international leadership.

733X The Legislative Process in the United States

30 hours plus conference; 3 credits

The function of Congress and state legislatures. Bases of representation. Internal politics. Procedures. Interest groups. Controls.

734X Policy Analysis

30 hours plus conference; 3 credits

Current problems, prospects, and projections of policy analysis in education, health, poverty, welfare, planning, urban renewal, police and law enforcement, and metropolitanization.

735X Politics and Public Opinion Formation

30 hours plus conference; 3 credits

The role of public opinion in different political systems.

Formation of opinion. Political socialization; interest and pressure groups. Leaders and political behavior. Mass communications media.

736X The Politics of the American Labor Movement

30 hours plus conference; 3 credits

The influence that trade unions have in the political process (elections, parties, the legislature, and the courts) and the importance of state intervention to union organization and political power. Leading theories on union goals and relationship to the political system will be analyzed. Also covered will be specific policy objectives pursued by unions: e.g., health, safety, and welfare policies; employment security and labor relations policies; affirmative action and economic restructuring policies.

737X Policy Evaluation

30 hours plus conference; 3 credits

The nature, purposes, and methodology of policy evaluation. The relationship between policy evaluation and policy analysis. Description and differentiation of summative, goal-free, utilization-focused, formative, and cost-effectiveness evaluation. Analysis of various kinds of experimental, quasi-experimental, reflexive, process, and cost-effectiveness research designs for policy evaluation. Diagnosis of validity problems associated with each design.

740X Public Administration

30 hours plus conference; 3 credits

Theories and practice of public administration. The political context of public service. Policy implementation. Organizational design. Management techniques. Budgeting. Personnel administration. Evaluation. Union administration and management, mentor servicing, labor law, public sector collective bargaining. Labor unions and local, state, and federal administrative processes.

745G Fieldwork

3 credits

Students spend eight to ten hours a week in a government agency and attend weekly seminars dealing with problems raised in the fieldwork assignment. The seminar is supervised jointly by a city administrative officer and Brooklyn College staff member. Students write a paper on a specific problem in an administrative agency.

747X Metropolitan Areas and Community Power

30 hours plus conference; 3 credits

The urban power structure and the metropolitan complex. Regional planning for land use and transportation. Adjustment of government services to the metropolitan, social, and economic community. Political, fiscal, administrative, legal, constitutional problems. Changes in intergovernment relations. Labor and trade union power; labor-community coalitions, metro-unionism.

748X Planning for Metropolitan Areas

30 hours plus conference; 3 credits

The planning process in metropolitan governments. Administrative policies and machinery for dealing with regional problems. Planning problems of the New York metropolitan area.

749.1X, 749.2X Selected Topics in American Government

30 hours plus conference; 3 credits

Topics vary from term to term. Students may take any combination of these courses for a total of 12 credits, but may not repeat topics. (Not open to students who have completed the same topic in Political Science 749.3X or 749.4X.)

751X Government of New York City/Urban Politics

30 hours plus conference; 3 credits

The politics, government, administration of New York City in the context of the changing field of urban politics. Political economy; population changes; geographic differences; impact of the states and the federal government.

755X Health Care Politics

30 hours plus conference; 3 credits

The scope and politics of government intervention in health care; topics include: national health insurance, federalism and the U.S. health care system, the politics of professionalism, cost containment, privatization, health promotion, and reforming the health care system. Debates over health policy will be traced historically and related to major policy models. Various approaches to the study of politics will be employed and illustrated with case studies from the health care field.

757X Racial and Ethnic Politics in the United States

30 hours plus conference; 3 credits

Framework for analyzing racial and ethnic politics in the United States, including historical, economic, social, as well as political factors. Topics include the civil rights movement, immigration policy, urban poverty, and contemporary debates involving racial and ethnic issues.

International relations**760X U.S. Foreign Policy**

30 hours plus conference; 3 credits

Historical development of United States foreign policy. Policies toward each world region. Ideological and political debates over specific policies and the use of power. Domestic factors affecting the determination and conduct of U.S. foreign policy.

761X Modern International Politics

30 hours plus conference; 3 credits

Analysis of the basic factors shaping contemporary international politics; theories and approaches to the study of

international politics; patterns of relations among states and non-state actors; sources and uses of power in the global arena.

762X International Organization

30 hours plus conference; 3 credits

Major global and regional international organizations. The United Nations system.

763X International Law

30 hours plus conference; 3 credits

The nature, sources, and development of international law. Role and function of law in international society.

765X Human Rights and World Politics

30 hours; 3 credits

Study of human rights problems and the international community's approaches to them. Examination of the history of human rights, the functioning of human rights organizations, the relationship between human rights and political systems, and patterns of rights violations against different ethnic, racial, religious, gender, and other groups.

766X Globalization and International Cooperation

30 hours plus conference; 3 credits

Contemporary developments in economic and political globalization and in cooperation among states. Analysis of international political economy and policy, North-South relations, and trade. Examination of cooperation on human rights, war, environment, minorities, culture, migration, refugees, genocide, health, and gender.

767X North-South Relationships in World Politics

30 hours plus conference; 3 credits

Political and economic relationships between the wealthy countries of the global north and the poorer countries of the global south. Study of trade, debt, war, history, rights, nationalism, identity, labor, environment, immigration, and the world's approaches to these problems.

769.1X Selected Topics in International Relations

30 hours plus conference; 3 credits

Topic varies from term to term. Students may take this course four times, but may not repeat topics. (Not open to students who have completed the same topic in Political Science 769.2X, 769.3X, or 769.4X.)

Comparative politics**770X Political and Administrative Problems in Newly Independent States**

30 hours plus conference; 3 credits

Selected problems including political stability, representative institutions, parties, the military, bureaucracy. Relationship between political institutions and economic development.

771.2X–771.6X Political Systems in Developing Areas: Regional Analysis

30 hours plus conference each term; 3 credits each term
Political modernization of developing areas. Process of transition from traditionalism to modernism. Developing political institutions and changing political processes in specific regions.

- 771.2X The Far East
- 771.3X The Middle East
- 771.6X Latin America

772X Comparative Politics

30 hours plus conference; 3 credits

Introduction to the nature and methodology of comparative political research. Comparative study of governments from each world region. Cross-national analysis of major dimensions of the political processes, political structures, and state activities in Asia, Africa, the Americas, and Europe. Examination of the major themes of comparative politics such as democratization, nation building, ethnic conflicts, and social movements.

773X Postcommunist Politics

30 hours plus conference; 3 credits

Examination of the history and politics of the postcommunist societies of Eastern Europe and Central Eurasia. Analysis of the major puzzles of the region: democratization, the state and revolution, class and poverty, nation-building and disintegration, gender, and globalization.

774X The Military and Police in Politics

30 hours plus conference; 3 credits

The roles, influences, and power of military, police, and other security forces in the politics of countries around the world. Patterns in national and international policies on crime, terrorism, and military issues.

776X Comparative Public Administration

30 hours plus conference; 3 credits

Comparative analysis of different bureaucratic structures and processes in industrialized and developing areas of the world.

777X Violence and Politics

3 hours; 3 credits

Examination of violence in the politics of each world region. Study of civil war, political conflict, civil strife, economic protest, identity-based discrimination, violent crime, vigilantism, and other forms of violence in the development of countries and their current conditions.

778X Political Development

30 hours plus conference; 3 credits

The concept of development as a framework for the study of politics. Basic political concepts common to developing or Third World political systems and highly developed or technologically advanced political systems. Aspects of the

process of development. Characteristic problems of societies at various stages of development. Patterns of interaction between developing and industrially advanced societies. Impact of these relationships on world politics.

779X Postindustrial Politics and the State

30 hours plus conference; 3 credits

Examination of the nature, structure, and role of the modern state in diverse advanced, industrial settings. Political, economic, and social forces impinging on the state and its capability to respond to these challenges, demands, and expectations.

780X Modern South Africa

30 hours plus conference; 3 credits

Analysis of major political, economic, and social developments in the Republic of South Africa since 1948. Against the backdrop of South Africa's recent history, topics examined include the system of apartheid, White rule and Black challenge, the South African economy, South Africa and the wider world, the Nelson Mandela era, and U.S.–South African interests and policies. This course is the same as Africana Studies 780X.

789.1X Selected Topics in Comparative Politics

30 hours plus conference; 3 credits

Topics vary from term to term. Students may take this course four times, but may not repeat topics. (Not open to students who have completed the same topic in Political Science 789.2X, 789.3X, or 789.4X.)

Research courses

791G Thesis Research

Hours to be arranged; 3 credits

Research for master's thesis supervised by a faculty member. Credit is not earned until the thesis is accepted. Students register for this course only once, and must complete the thesis within two semesters.

792G Internship/Thesis

3 credits

Assignment to a nonprofit or governmental agency. Joint supervision by a faculty member and a member of the agency. This course requires students to write a master's thesis based on internship work. The thesis must be approved by the graduate deputy chairperson.

The following courses are inactive and will be offered only if there is sufficient demand:

723X Survey Research

742X Law and the Behavioral Sciences

744X Government and Defense

771.4X, 771.5X Political Systems in Developing Areas: Regional Analysis

771.4X Africa, South of the Sahara

771.5X North Africa

Psychology

Office: 5401 James Hall
Telephone: 951-5601

Chairperson: R. Glen Hass

Deputy Chairperson, Division of Graduate Studies:
Benzion Chanowitz

Deputy Chairperson, CLAS: David R. Owen

Deputy Chairperson, SGS: Alvin Snadowsky

Professors: Abramov, Erdelyi, Hainline, Hass, Kuhlman, Lee, Lepore, Levine, Macmillan, Osman, Owen, Puchkoff, Reber, Romer, Sclafani, Snadowsky;

Associate Professors: Brannon, Brauner, Chanowitz, Delamater, Grasso, Halpert, McDonough, McMahan, Sapolsky, Weston;
Assistant Professors: Kozbelt, Kurylo, Robles-Rodriguez, Tenenbaum.

The Psychology Department offers a master of arts in experimental psychology, a master of arts in industrial and organizational psychology-organizational psychology and behavior; and a master of arts in industrial and organizational psychology-human relations.

M.A. in experimental psychology HEGIS code 2002

M.A. in industrial and organizational psychology-organizational psychology and behavior HEGIS code 2008

M.A. in industrial and organizational psychology-human relations HEGIS code 2008

Matriculation requirements

Applicants must offer a minimum of 12 credits in undergraduate courses in psychology or evidence of appropriate background in related fields.

General matriculation and admission requirements of the Division of Graduate Studies are in the section "Admission."

Degree requirements

Thirty to 36 credits are required for the degree, a minimum of 24 of which must be taken in the Psychology Department.

Courses in the Psychology Department offered toward the degree must be 700-level courses.

Students must pass a comprehensive examination after completing 24 credits in psychology courses.

Students must submit a thesis acceptable to the department or take an additional 6 credits of 700-level courses. This 6-credit option must be approved by the deputy chairperson. Information about requirements for the comprehensive examination and thesis is in the section "Academic Regulations and Procedures."

Students select one of the following programs. The program of study for each is individually approved by the department.

Experimental Psychology: Concentration in the broad areas of cognition, learning, perception, and physiological,

developmental, and social psychology. Focus is on preparation for a career in basic or applied research in a variety of settings. This program is approximately the same as the first 30 credits of the CUNY doctoral program. Required courses include Psychology U705G and U706G; the remainder of each student's program must be approved by the deputy chairperson.

Industrial and Organizational Psychology-Organizational Psychology and Behavior: Training in individual, group, and organizational processes with emphasis on a psychodynamic and sociotechnical orientation. The focus is on training management generalists as well as those who intend to specialize in the human resources and organization development areas, including both career-entry and mid-career professionals. Required courses are Psychology 778G, 779G, 785.1G, 786.09G, 786.10G, 786.20G, 787.10G, 788.10G; the remainder of each student's program must be approved by the program director.

Industrial and Organizational Psychology-Human Relations: The development of personal and social awareness, understanding of the individual acting in a social context, and the acquisition of a knowledge of group processes and evaluation techniques. The focus is on developing human relations facilitators who are able to promote behavior change and skills acquisition in a variety of public and private settings. Required courses are Psychology 770.1G, 772G, 774G, 776G, 778G, 779G, 785.1G, 787.10G, and one additional course from 786.20G, 786.21G, 787.20G, 788.10G, 788.11G, or 788.20G; the remainder of each student's program must be approved by the program director. Students electing the thesis option may be exempted from certain required courses and must have their total program approved by the director as early as possible.

CUNY Ph.D.

The City University doctoral program in experimental psychology is based at Brooklyn College. Many of the courses offered at Brooklyn College may be creditable toward the CUNY doctoral degree. Candidates who complete the master of arts may apply for admission to the doctoral program.

Further information may be obtained from the doctoral sub-program director or from the Bulletin of the Graduate School and University Center. Students may obtain the Bulletin from the Graduate School and University Center, CUNY, Office of Admissions, 365 Fifth Avenue, New York, New York 10016.

Courses

Students may apply graduate or undergraduate courses toward fulfillment of a prerequisite unless otherwise stated.

The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

U700G History of Psychology

45 hours; 3 credits

Historical development of modern psychology.

U703G Research Methods and Design I

45 hours; 3 credits

Consideration of the basic principles of research methodology as involved in the design of psychological research. Attention given to possible and likely sources of confounding in behavioral research and appropriate control procedures for dealing with them.

U704G Instrumentation in Experimental Psychology

30 hours lecture, 30 hours laboratory; 3 credits

Lecture and laboratory illustrating the use of physical instruments in the generation of stimuli and measurement of responses. Techniques taught are general rather than specific to any particular area in psychology. No specialized background is assumed. (Not recommended for students with extensive experience in programming psychological equipment.)

U705G Statistical Methods in Psychology I

30 hours lecture, 30 hours conference or laboratory; 3 credits

Advanced treatment of basic concepts of probability and inferential statistics. Statistical tests based on binomial, normal, chi-square, t, F distributions. (Not open to students who have completed Biology 781G.)

U706G Statistical Methods in Psychology II

30 hours lecture, 30 hours conference or laboratory; 3 credits

Continuation of Psychology U705G. Complex experimental designs; standard techniques of fitting curves to data; correlation; nonparametric and short-cut methods.

Prerequisite: Psychology U705G.

U707G Multivariate Statistical Methods

45 hours; 3 credits

Detailed analysis of some major multivariate statistical procedures. Multiple regression; discriminant function analysis; multivariate analysis of variance; canonical correlation; factor analysis.

U710G Advanced Physiological Psychology I

45 hours; 3 credits

Mechanisms of excitation; synaptic interaction; advanced topics in sensory psychophysiology; rhinencephalon and affective behavior.

Prerequisite: an undergraduate course in physiological psychology.

U711G Advanced Physiological Psychology II

45 hours; 3 credits

Comprehensive survey of brain-behavior relationships.

Neurological, physiological, biochemical, endocrinological approaches to defining behavior processes.

Prerequisite: Psychology U710G.

U716G Comparative Psychology

45 hours; 3 credits

Major topics in this field.

Prerequisite: an undergraduate course in comparative psychology.

U720G Developmental Psychology

45 hours; 3 credits

Survey of psychological development throughout childhood and adolescence.

U730G Psychology of Learning

45 hours; 3 credits

Representative investigations and theories of learning.

U735G Psychology of Perception

45 hours; 3 credits

Experimental foundations and theoretical approaches to problems in perception.

U736G Sensory Psychology

45 hours; 3 credits

Detailed consideration of sensory processes and their mediating neural mechanisms.

U738G Cognitive Psychology

45 hours; 3 credits

Mental phenomena in terms of strategies of information processing. Nature and speed of different stages and types of perceptual and cognitive operations. Cognitive approach to storage and retrieval processes. Conditions that determine generation and evaluation of strategies. Facts and theories concerning attention, imagery, awareness.

U740G Advanced Psychology of Personality

45 hours; 3 credits

Discussion and reports on topics in the field.

Prerequisite: a course in the psychology of personality.

U741 Psychoanalytic Theory I

45 hours; 3 credits

Historical development of psychoanalytical theory is traced through a study of Freud's work. Major papers of each period of development are selected for detailed study and discussion.

U745G Human Motivation

45 hours; 3 credits

Review of theory and research on such major current topics as arousal, curiosity, anxiety, achievement motivation, conflict,

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reinforcement, social motivation. Some consideration of methods of measuring human motivation.

Prerequisite: a graduate course in personality or learning.

U746G Advanced Social Psychology

45 hours; 3 credits

Advanced topics in social psychology.

Prerequisite: a course in social psychology.

U747G Experimental Social Psychology

45 hours; 3 credits

Critical examination of selected areas and relevant research methods in social psychology. Independent or group research on selected problems.

Prerequisite: Psychology U705G and U746G.

U752G Language and Thought

45 hours; 3 credits

The nature, acquisition, behavioral effects of language. Language is studied in its phonological (phonetic), morphological (grammatical-rhetorical), semiological (semantic) aspects. Nature of semiotics (syntax, semantics, and pragmatics), ambiguity, metaphor, bilingualism.

U752.1G Computer Simulation of Psychological Process

45 hours; 3 credits

Discussion of attempts to simulate complex mental phenomena by computer. Value of making psychological theories explicit using computer models. Analysis of problems in the construction and evaluation of these models; examples from the fields of perception, problem solving, personality.

U752.2X Foundations of Cognitive Science

45 hours; 3 credits

Bases for intelligent behavior in humans, animals, and machines. Human and machine intelligence are compared with respect to visual perception, speech perception, language comprehension, learning, and other adaptive mechanisms. This course is the same as Computer and Information Science 732.IX.

Prerequisite: a course in probability and statistics; and knowledge of such high-level programming languages as Pascal, PL/I, or LISP.

U752.3G Natural-Language Processing

45 hours; 3 credits

The study of natural-language processing including linguistic theory, the formal theory of languages, and psycholinguistic investigations into human natural-language processing, both from the point of view of modeling human processing and of developing practical systems for machine processing of natural-language material. This course is the same as Computer and Information Science 733X.

Prerequisite: Computer and Information Science 622X or a course in data structures.

U755G Psychopathology

45 hours; 3 credits

Intensive study of case material and psychological literature of some theoretical and practical problems in the diagnosis, etiology, and dynamics of neurosis.

Prerequisite: a course in abnormal psychology.

U763G Psychophysical Methods

45 hours; 3 credits

Systematic study of current psychophysical theory and methods including traditional approaches and more recent developments.

770.1G Human Relations Training Seminar I

45 hours; 3 credits

A training-group approach. Participant orientation to group processes; assessment of such relevant interpersonal competencies as leadership and assertiveness; observation and analysis of group process; group diagnosis; personal development; improvement of interpersonal skills; intervention analysis. (Not open to students who have completed Psychology 770G, 771G.)

Prerequisite of 770.1G: permission of the deputy chairperson.

U771G Ethical and Legal Issues for Psychologists

45 hours; 3 credits

Ethical and legal issues that arise in all aspects of the functioning of psychologists as scientists, academics, and practitioners. Students will be introduced to the ethical principles of the professional and relevant legal issues. Illustrative cases will be drawn from the American Psychological Association publication, Ethical Principles in Psychology, and from other courses. These will be discussed in order to facilitate the recognition and analysis of ethical problems that arise in a variety of settings, including animal as well as human research, clinical practice, and consultation.

772G Theories of Group Process

45 hours; 3 credits

The conceptual underpinnings and methodological perspectives of group process. The theories that have been developed to support the activities that promote learning and change in individuals participating in the small group interactive experience (the human relations training group). The relevance of theoretical models and cognitive structures to effectiveness in small groups.

Prerequisite for Psychology 772G: permission of the deputy chairperson.

774G Intervention Theory and Practice I

45 hours; 3 credits

Analysis of the types of intervention available to the group

leader and an evaluation of their effects on learning within the group. Intervention strategies are explored in the context of a variety of potential group situations. The development of individual intervention styles for increasing effectiveness is emphasized.

Prerequisite for Psychology 774G: Psychology 770.1G and permission of the deputy chairperson.

776G Psychology of Small Groups I

45 hours; 3 credits

Development of small groups; theories of group development. Study of group processes; factors that enhance or inhibit group effectiveness and productivity; practice in group diagnostic skills; individual skills that increase group effectiveness.

Prerequisite: permission of the deputy chairperson.

777G Psychology of Small Groups II

45 hours; 3 credits

Continuation of Psychology 776G.

Prerequisite: Psychology 776G and permission of the deputy chairperson.

778G Quantitative Techniques in Industrial and Organizational Psychology

45 hours; 3 credits

This course will focus on the applications of statistics relevant to problems in industrial and organizational psychology. In addition to standard descriptive and inferential statistical procedures, the course will include a wide variety of correlational procedures, nonparametric procedures, chi-square, survey design procedures, and psychological scaling techniques.

Prerequisite: permission of the deputy chairperson.

779G Research Methods in Industrial and Organizational Psychology

45 hours; 3 credits

A critical examination of a wide variety of research designs and methods used in the study, assessment, and evaluation of small group processes. Students will develop and implement research projects in group settings.

Prerequisite: Psychology U705G or 778G.

779.1G Special Topics in Human Relations Training

45 hours; 3 credits

Topics vary from term to term.

781G Research in Psychology

45 hours; 3 credits

Research for master's thesis supervised by a faculty member. Credit is not earned until the thesis is accepted. Students register for this course only once.

785.1G Psychological Concepts and Methods: Issues In Organizational Psychology

45 hours; 3 credits

Introduction to major psychological concepts applicable in organizational theory. Includes scientific basis of psychology, experimental methods, psychodynamic personality theory, psychopathology, relevant topics in social psychology, motivation theory, group behavior theory.

786.10G Social Systems Sciences Theory: Assessing Organizational Structure, Design, and Technology

45 hours; 3 credits

Review of macro-theory concerning structures and processes within major subsystems, organizations, and their environments, and the linkages among them. Assessment of macro-oriented organizational research.

Prerequisite or corequisite: Psychology 785.1G.

786.20G Macro-Organizational Applications: Organizational Diagnosis and Consultation

45 hours; 3 credits

An evaluation of methods of organizational diagnosis including psychodynamic and sociotechnical approaches. Special attention will be paid to the use of psychoanalytic theory in organizational diagnosis and consultation.

787.10G Social Systems Sciences Theory: Group Relations Issues in Organizational Psychology

45 hours; 3 credits

Introduction to the major theoretical approaches to analysis of group and intergroup behavior in organizational settings. Primary focus on psychodynamic interpretation of group dynamics and behavior. Topics: primary task; task and sentient groups; basic assumption groups; role of anxiety, defense, and regression; nature of leadership and authority; developmental trends in groups.

Prerequisite or corequisite: Psychology 785.1G.

787.20G Group Relations Applications: Approaches to Training and Development

45 hours; 3 credits

Examination of specific cases of training and organization development with groups. Special emphasis on recent corporate interventions.

Prerequisite: Psychology 785.1G and 787.10G or permission of the instructor.

787.22G Labor Relations: Quality of Working Life Issues, Productivity, and Unions

45 hours; 3 credits

Assessment of the relationship between quality of working life, changes in productivity, and the negotiations process.

Examination of contemporary labor-management experiments.

Prerequisite: Psychology 785.1G and 787.10G or permission of the instructor.

**788.10G Social Systems Sciences Theory:
The Individual in the Organization**

45 hours; 3 credits

Introduction to the major theoretical approaches to analysis of individual behavior in organizational settings. Primary focus is on psychodynamic interpretation of individual behavior in a group and organizational context. Topics: person/role boundary; role of anxiety, defense, and regression; nature of leadership and authority; work attitudes (job satisfaction, job involvement, and organizational climate); motivational traits and environments; job performance.

Prerequisite or corequisite: Psychology 785.1G.

788.11G Leadership, Power, and Executive Stress

45 hours; 3 credits

Alternative theories of leadership, power, and executive stress in organizations.

Prerequisite: Psychology 785.1G and 788.10G or permission of the instructor.

**788.20G Human Resources Management
Applications: The Individual/Organizational
Boundary**

45 hours; 3 credits

Current corporate examples of human resource systems and their impact on the individual. Topics: manpower planning; assessment centers; performance appraisal; wage and salary administration; benefit programs; incentives; and performance standards.

Prerequisite: Psychology 785.1G and 788.10G or permission of the instructor.

788.21G Personnel Assessment Techniques

45 hours; 3 credits

Clinical techniques in personnel assessment.

Prerequisite: Psychology 785.1G and 788.10G or permission of the instructor.

791.1G, 791.2G Independent Reading

Minimum of 135 hours of independent work and conference; 3 credits

Reading, approved by a faculty adviser, in an area of psychology. One or more written reports or a final examination. (Psychology 791.1G is not open to students who have completed Psychology 791G.)

Prerequisite: matriculation in the psychology program.

**799.1G, 799.2G Independent Psychological
Research**

Minimum of 135 hours; 3 credits

Research project supervised by a faculty member. (Psychology 799.1G is not open to students who have completed Psychology 799G.)

The following courses are inactive and will be offered only if there is sufficient demand:

U718G Ethology

**U733G Information and Decision Processes in
Human Behavior**

U737G Development of Cognition

U742 Psychoanalytic Theories II

770.2G Human Relations Training Seminar II

773G Theories of Group Process

775G Intervention Theory and Practice II

U780G Quantitative Methods in Psychology

786.09G Organizational Psychodynamics

**786.11G Systems Approaches to the Psychology
of Work**

**786.12G Planning and Control System
Psychology**

786.21G Strategies of Intervention in Organizations

**786.22G Psychology of High-Technology and
MIS Implementation**

**787.11G Sociotechnical Systems Analysis:
Autonomy in Groups**

**787.12G Action Research, Psychodynamic Theory,
and Group Motivation**

787.21G Small Work Group Consultation

788.12G Human Factors in Design and Engineering

788.22G Career Development

Puerto Rican and Latino Studies

Office: 1205 Boylan Hall
Telephone: 951-5561, 951-5562, 951-5563

Chairperson: Mariá E. Pérez y González
Deputy Chairperson, Division of Graduate Studies:
Antonio O. Nadal
Professors: Sánchez-Korrol, Stevens-Arroyo;
Associate Professors: Carrasquillo, Pérez y González;
Lecturer: Antonio Nadal.

The following courses are offered for students in other fields. Puerto Rican and Latino Studies 614X, 741X, and 770X are among the courses required by the School of Education for students in the master of science in education degree program in elementary education who are specializing in bilingual teaching and who plan to teach children whose native language is Spanish. Puerto Rican and Latino Studies 750X or 751X may be taken to fulfill degree requirements in the master of arts degree program in Spanish offered by the Modern Languages and Literatures Department.

Courses

The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

614X Puerto Rican Society

30 hours plus conference; 3 credits

Colonial heritage and its evolution in Puerto Rican society. Contemporary social reality in Puerto Rico in terms of foreign and native influences. Issues of race, gender, class, and identity. Role of family, social interpretation of historical processes with regard to trends and attributes accepted, transmitted, developed in the society. Collaborative research project.

740X Schools and Language Communities

30 hours plus conference; 3 credits

Focuses on selected language communities in the United States urban environment. Urban areas as multicultural/multilingual microcosms. Importance of language variety. Development of new curricular models designed to address the needs of students from diverse ethnolinguistic backgrounds. Theories, writings, and research studies in linguistics and sociolinguistics. Community-based influence on language expectation and attitudes. Intergenerational language shifts. Awareness of community and home language use as necessary toward the transformation of the school setting. Prerequisite: permission of the chairperson.

741X Bilingualism: Characteristics and Practices

30 hours plus conference; 3 credits

Study of the acquisition of two or more languages with special emphasis on Spanish-English bilingualism in the U.S. philosophy and general practices related to bilingual programs in U.S. schools. International perspectives on bilingualism

with selected case studies. Discussion of language policy and planning in developed and developing countries. Theories, writings, research studies in socio- and psycholinguistics. Application centered on the psycho-sociological background for language development in Puerto Rican and other Latino children. Independent research and professional development workshops. (Not open to students who have completed Puerto Rican and Latino Studies 641X.)

Prerequisite: 3 graduate credits in education, the social sciences, or the humanities or permission of the chairperson.

770X Puerto Rican and Latino Communities in Urban Areas

30 hours plus conference; 3 credits

Historical overview of the social, political, cultural, and organizational development of Puerto Rican communities set within the broader context of Latino history in the United States. Population and demographic distribution in urban areas. The significance of the New York Puerto Rican community. Analysis and evaluation of institutions created by Puerto Ricans and other Latinos; impact on mainstream culture. Interdisciplinary and intergenerational perspectives. Independent community study project. (Not open to students who have completed Puerto Rican Studies 670X.)

Prerequisite: Puerto Rican Studies 614X or 3 graduate credits in the social sciences or humanities or permission of the chairperson.

773X Summer Seminar

45 hours lecture, 90 hours supervised fieldwork and independent study; 6 credits

In cooperation with institutions of higher education in Puerto Rico, the United States, the Spanish-speaking Caribbean, or Latin America, the department offers opportunities for advanced work in Puerto Rican studies. Field trips to places of cultural and historical significance. Lectures by scholars from Brooklyn College and the host country. Independent and/or group research. Students may take the course for credit twice, with the permission of the chairperson, but may not repeat countries. Consult department for locale of a specific offering. Travel and accommodation fees are required. Prerequisite: permission of the chairperson.

The following courses are inactive and will be offered only if there is sufficient demand:

750X Puerto Rican Narrative and Drama

751X Puerto Rican Poetry and Essay

Social Studies

Office: 2303 James Hall
Telephone: 951-4807

Interdepartmental Coordinator: Barbara Winslow

M.A., social studies teacher (7-12)

HEGIS code 2201-01

The profession of teacher education is licensed by the New York State Education Department. Therefore, program requirements are subject to change. All students should consult with the School of Education for the current requirements.

Matriculation requirements

Applicants must offer a distribution approved by the coordinator of at least 15 credits in undergraduate courses in one or more of the following: history, economics, and political science.

Applicants must also offer (a) or (b) or (c):

- (a) New York State Initial Certification in teaching social studies for grades 7-12;
- (b) courses in education that meet the New York State standards for the pedagogical core. These courses include study of the following: history of education and philosophy of education or principles of education or educational sociology; educational psychology or developmental psychology or psychology of adolescence or adolescent development; classroom management; teaching students with special needs and English language learners; 6 credits in literacy and language acquisition; curriculum development and methods of assessing student learning; uses of technology in the classroom; methods of teaching social studies in grades 7-12; 100 hours of fieldwork; 40 days or 300 hours of student teaching of social studies in grades 7-12 or one year of full-time teaching of social studies in grades 7-12; and submission of scores on the L.A.S.T.;
- (c) an undergraduate degree with an appropriate major or appropriate course work in the appropriate subject areas, and submission of scores on the L.A.S.T.

Applicants must have a minimum undergraduate grade point average of 3.00. A minimum average of 3.00 in graduate courses is required to maintain matriculation.

Applicants who have not completed all the specific course requirements are given individual consideration and may be admitted with conditions, with the approval of the head of adolescence education and special subjects in the School of Education and the coordinator of social studies.

International applicants for whom English is a second language are required to pass the Test of English as a Foreign Language (TOEFL) with a score of 650 before being considered for admission.

Applicants must consult matriculation requirements for adolescence education and special subjects in the School of Education section of the Bulletin, and should see the head of adolescence education and special subjects in the School of Education for counseling.

General matriculation and admission requirements of the Division of Graduate Studies are in the section "Admission."

Degree requirements

A minimum of 30 credits is required for the degree.

Twelve credits must be chosen from the following courses, with no more than 9 credits from any one department: Economics 711.1X, 735X; History 720.3X, 730X, 738.4X, 743.4X, 744.1X, 745.3X, 751.5X, 753.4X; Political Science 703X, 747X, 757X, 765X, 772X, 778X; Sociology 614X.

The remaining 6 credits of the 18 credits required for the degree must be in courses approved by the social studies coordinator.

Students must complete 12 credits in courses in the School of Education. Students take different education courses and sequences of courses depending on their previous course work, teaching experience, and the certificates they hold. Students who possess Initial Certification in teaching social studies must complete 9 credits in Group II and 3 credits in Group III, below. Students who do not possess Initial Certification in teaching social studies or equivalent course work and teaching experience or who are teaching but do not possess Initial Certification in teaching social studies must have the appropriate course work and credits in the subject area and must complete the appropriate courses in Group I before taking courses in Group II and III, below. Students pursuing Initial Certification in teaching social studies must take ED 792.2X, Teaching Writing Across the Curriculum, in Group III. Students who already have a master's degree but wish Initial Certification in teaching social studies must take appropriate courses in Group I and Group III, below, as determined at the time of matriculation by the program head of adolescence education and special subjects in the School of Education.

Group I: ED 742X, ED 792.1X, ED 763.02T, ED 764.5T, ED 723.02T, ED 764.51T.

Group II: ED 742.2T, ED 722.02T, ED 724.02T.

Group III: ED 716X, ED 721.02T, ED 726.1X, ED 731.3T, ED 751.2T, ED 784.2X, ED 792.2X, ED 792.4X/ENG 779X, ED 796X/THE 741, ED 799.5X.

Students are required to pass a written comprehensive examination. Information about requirements for the comprehensive examination is in the section "Academic Regulations and Procedures." Students should take the comprehensive examination after they have completed all four required core courses and a minimum of 24 graduate credits. It is strongly recommended that students who are planning to take the comprehensive examination meet with the social studies coordinator before they file to take this examination.

The program of study must be approved early in the first semester by the social studies coordinator and the head of adolescence education and special subjects in the School of Education.



Sociology

Office: 3612 James Hall
Telephone: 951-5314, 951-5315, 951-5316

Chairperson: Roberta L. Satow
Deputy Chairperson, Division of Graduate Studies and SGS: Alex S. Vitale
Deputy Chairperson, CLAS: Mark S. Fishman
Professors: Lenzer, Satow, Silver, Verbit, Zukin;
Associate Professors: Fishman, Shortell;
Assistant Professors: Daniel, Moore, Vitale.

M.A. in sociology HEGIS code 2208

Matriculation requirements

Applicants must offer at least 12 credits in advanced courses in sociology including courses in social theory and methods of research.

General matriculation and admission requirements of the Division of Graduate Studies are in the section "Admission."

Degree requirements

Thirty to 32 credits are required for the degree. Students must complete 24 credits in the Sociology Department. The following courses are required: Sociology 701X, 702X, 710X, 711X, and 712G. Students must complete Sociology 701X, 702X, 710X, and 711X with a grade point average of 3.00 or higher to maintain matriculation in the master's degree program in sociology.

Students who have completed a graduate course in statistics or pass an examination in statistics may be exempt from Sociology 712G with permission of the deputy chairperson.

The remaining credits required for the degree must be chosen in consultation with the deputy chairperson.

Students must pass a comprehensive examination. Under special circumstances, and with permission of the graduate deputy chairperson, the comprehensive examination may be waived in favor of a long master's research essay (minimum of forty pages) or two shorter master's research essays (minimum of twenty pages each).

The comprehensive examination will cover sociological theory, sociological research methods, and one special sociological area. Students who are permitted to write a long master's research essay or two shorter master's research essays are required to take 770.1G and 770.2G in addition to the 30 credits required for the degree. These two courses may only be taken after the completion of 21 credits in sociology. A three-person faculty committee, appointed by the graduate deputy chairperson, will evaluate the comprehensive examination or the master's research essay(s).

Courses in the Sociology Department offered toward the degree must be 700-level courses.

The program of study must be approved by the deputy chairperson.

CUNY Ph.D.

The City University of New York offers a doctoral program in sociology. General information about CUNY Ph.D. programs is in the chapter "About Brooklyn College."

The Sociology Department offers courses at Brooklyn College that may be credited toward the CUNY doctoral degree with permission of the executive officer of the doctoral program. For information about the courses, students should consult the deputy chairperson of the Sociology Department and the executive officer of the doctoral program.

Courses

Unless a prerequisite is specific, students may apply graduate or undergraduate courses toward fulfillment of that prerequisite.

The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

613X Minority Groups

30 hours plus conference; 3 credits

Immigration movements to the United States. Refugees and policies regarding refugees. Cultural heterogeneity and emergence of new cultural syntheses. Ethnic and racial structure of the American people. Problems of adjustment and assimilation. Methods of solving intergroup tension and antagonism. (Not open to students who have completed Sociology 713X.)

Prerequisite: an introductory course in sociology.

614X Sociology of Urban Communities

30 hours plus conference; 3 credits

Institutional and interpersonal concomitants of city life. Ancient and modern history of urban development. Major works and theorists. (Not open to students who have completed Sociology 724X.)

Prerequisite: an introductory course in sociology.

651X Deviance and Social Problems

30 hours plus conference; 3 credits

Relationships between deviant behavior and social definitions of deviance. How definitions of deviance emerge when social problems are attributed to certain categories of people. Types of deviance include mental illness, physical disability, sexual deviations, alcoholism, drug addiction, retardation.

Prerequisite: an introductory course in sociology.

701X Development of Sociological Theory

30 hours plus conference; 3 credits

Critical examination of major treatises and schools in the development of sociological theory from Comte to twentieth-century theorists.

702X Contemporary Sociological Theory

30 hours plus conference; 3 credits

Critical discussion of current sociological theory. Relation of contemporary theory to empirical research.

710X Quantitative Methods of Sociological Research

30 hours plus conference; 3 credits

Quantitative concepts and methods, including computer and other techniques used in large-scale surveys. Application of such concepts and methods to problems in social research.

711X Qualitative Methods of Sociological Research

30 hours plus conference; 3 credits

Qualitative concepts and methods of sociological research; their application in representative published studies.

Prerequisite: Sociology 710G.

712G Statistics for Sociologists

30 hours plus conference; 3 credits

Descriptive and inferential statistics appropriate for analysis of sociological data. Emphasis on concepts and implications of sociological statistics rather than on mathematical foundations. Critical survey of statistical reasoning in major sociological studies.

714X Social Class

30 hours plus conference; 3 credits

Various class, estate, caste systems. Their influences on behavior and values. Their relation to political power, social prestige, consumption style. Social mobility.

723X Dynamics of Modernization

30 hours plus conference; 3 credits

Developing communities, regions, nations. Social factors in economic and technological change. Case studies of industrialization in traditional and folk societies; values, institutions, social stratification. Social planning of modernization: coercive and noncoercive change. Normative considerations in changing values and societal goals.

729X Advanced Criminology

30 hours plus conference; 3 credits

Major sociological and cultural forces that lead to crime. Criminal behavior viewed as separable behavioral systems and as adaptations to variations in cultural standards and the social structure.

733X Sociology of Power

30 hours plus conference; 3 credits

Concepts of social power in primitive and modern societies. Methods of seizure and consolidation of power developed in totalitarian movements. History and development of Communist strategy and tactics. Strategy and tactics of Nazi and Fascist movements. Struggle against seized power. Defense of democratic forms and procedures.

749X Sociology of Gender

30 hours and conference; 3 credits

Exploration of the social construction of gender as a major social category and its production and maintenance as a master social status. Issues that will be explored are: gender and parenting; social scripting of sexuality; micropolitics of gender; gender, production, and power in nonindustrialized societies; gender and class in industrialized societies; occupational gender segregation in post-industrial societies; gender, class, and racial oppression in the United States; theories and strategies of feminism.

750X Sociology of Socialization

30 hours plus conference; 3 credits

Social interactive processes that shape the individual's identification and participation in society. Social learning of culturally preferred and variant values, norms, role identifications and behaviors. Internalization and reinforcement by cumulative participation in role relationship systems of family, friends, school, religion, work. Dynamic interplay between primary and later socialization. Conflict and consensus among varying socialization sources. Functioning in social stability and social change including conditions of drastic resocialization.

751X Social Conflict

30 hours plus conference; 3 credits

Major social bases of conflict: class, status, racial, generational. Means of conflict: nonviolent resistance, rioting, vigilantism, terrorism, guerrilla warfare, revolution. Factors contributing to escalation and de-escalation of conflict. Termination and consequences of social conflict. Focus on theories of social conflict advanced by Marx, Simmel, Coser, Dahrendorf, others. Conflict in contemporary United States.

752X The Sociology of Private Relationships: Marriage, Family, and Other Significant Relationships in Modern Society

30 hours plus conference; 3 credits

Analysis of interpersonal relationships and institutions in private life; their evolution under the influence of modernization, urbanization, technological change, secularization, and modern legal theory; their impact on social identity, child rearing, education, and social organization.

753X The "New Old": Explorations in the Sociology of Aging

30 hours plus conference; 3 credits

Changing demography of aging and emergence of the "new old." Comparison with the emergence of childhood and adolescence in earlier phases of Western history. Problem of adjusting theory and research to the rapidly changing character of older populations. Alternative perspectives on the study of aging. Continuity and discontinuity over the life cycle. Aging, social change, and social isolation. Contrasting views on the prospects of an "age irrelevant" society.

761X Seminar in Sociology

30 hours plus conference; 3 credits

Lecture, reading, reports on selected topics in advanced sociology. Content of the course varies and is determined by students and instructor.

763X Research Seminar in Sociological Theory

30 hours plus conference; 3 credits

764X Research Seminar in the Urban Community
30 hours plus conference; 3 credits**770X Independent Reading**

Minimum of 135 hours of independent work and conference; 3 credits

Critical study, in an area of sociology selected by the student, of reading approved by a faculty adviser. One or more written reports or a final examination.

Prerequisite: matriculation in the sociology program and permission of the deputy chairperson.

770.1G, 770.2G Independent Research for Master's Research Essay(s)

15 hours each plus conference; 1 credit each term

Research supervised by a faculty member in preparation for two twenty-page master's research essays or one forty-page master's research essay. The work must be awarded a grade of B or higher in order to be eligible for consideration toward the completion of the master of arts degree in sociology. Students register for these courses only once.

Prerequisite: 21 credits in sociology and permission of the deputy chairperson.

The following courses are inactive and will be offered only if there is sufficient demand:

- 610X Introduction to Sociology of Religion**
- 612X Social Movements**
- 621X Sociology of Sex Roles**
- 622X The Family**
- 624X Mass Communications in Modern Society**
- 627X Culture and Personality**
- 641X Introduction to Crime and Delinquency**
- 722X Bureaucracy and Organizations**
- 725X The New York Metropolitan Region**
- 744X The Sociology of the American Jewish Community**
- 754X Sociology of Mental Health and Illness**
- 755X Sociology of Medicine**

Speech Communication Arts and Sciences

Office: 3439 Boylan Hall
Telephone: 951-5225, 951-5226, 951-5227

Chairperson: Timothy Gura
Deputy Chairperson, Division of Graduate Studies: Gail Gurland
Deputy Chairperson, CLAS and SGS: Shuming Lu
Professors: Chapey, Cherry, Gura, Gurland, Rubinstein, Silman;
Associate Professors: Emmer, Lu, Marton;
Assistant Professors: Haas, Longtin, Nielsen-Rosander, Schaeffer;

The Speech Communication Arts and Sciences Department offers the following degree programs: master of arts in speech, master of science in audiology, master of science in speech-language pathology, and master of science in education for teacher of students with speech and language disabilities.

The programs in audiology and in speech-language pathology have been accredited by the Educational Standards Board of the American Speech-Language-Hearing Association.

M.A. in speech HEGIS code 1506

Public communication.

Matriculation requirements

Applicants must offer at least 18 credits in courses in speech including courses in argumentation and discussion.

General matriculation and admission requirements of the Division of Graduate Studies are in the section "Admission."

Degree requirements

Thirty credits and a thesis or two terms of Speech 798.6X are required for the degree.

Eighteen to 24 credits must be completed in courses in the Speech Department. The following courses are required of all students: Speech 702X, 751X, 753X, 756X, 758X, and 759X. Students who choose to write a thesis must also take Speech 799G. Students who do not choose to write a thesis must also take two terms of Speech 798.6X.

The remaining 12 credits required for the degree may be chosen from other departments with the approval of the department chairperson.

Students must pass a written comprehensive examination. Information about requirements for the comprehensive examination and thesis is in the section "Academic Regulations and Procedures."

Courses in the Speech Department offered toward the degree must be 700-level courses.

The program of study must be approved by the department chairperson.

M.S. in audiology; M.S. in speech-language pathology HEGIS code 1220

Students may choose to major in either audiology or speech-language pathology.

Students who intend to be certified professionally must choose either audiology or speech-language pathology as the major area of concentration and the other area as the minor concentration.

Matriculation requirements

Applicants must offer at least 24 credits in speech-language pathology and audiology with grade point average of 3.00 or higher. The credits must include courses as follows: acoustics of speech and hearing, anatomy and physiology of the speech and hearing mechanism, speech and language acquisition, audiology, treatment of speech and language disorders, phonetics, speech and language disorders, and statistics.

General matriculation and admission requirements of the Division of Graduate Studies are in the section "Admission."

Degree requirements

Forty-five to 60 credits are required for the degree.

Students must pass a written departmental comprehensive examination and must take and report their scores on the National Teacher Examination (NTE/PRAXIS) in the major area of concentration.

Information about requirements for the comprehensive examination is in the section "Academic Regulations and Procedures."

Courses in the Department of Speech Communication Arts and Sciences offered toward the degree must be 700-level courses.

The program of study must be approved by an adviser in the student's major area of concentration.

Students must also complete requirements in either audiology or speech-language pathology, as follows:

Audiology: Speech 710X, 711X, 728.1X, U740X, U741X, U742X, U745X, 747X, 747.1X, and either 725X or 733X; and not more than 6 credits in clinical practicum, for a minimum of 350 clock hours. A maximum of 9 credits in courses in clinical practicum (729.1X, 729.2X, 729.3X, 749.1X, 749.2X, 749.3X), special problems (796X), and courses taken on a tutorial basis may be counted toward the degree. The remaining credits required for the degree must be chosen in consultation with an adviser in the major area of concentration.

Speech-language pathology: Speech 711X, 723X, 725X, 726X, 727X, 721X or 736X, 737X, 733X, and U741X; and not more than 6 credits in clinical practicum, for a minimum of 350 clock hours. A maximum of 9 credits in courses in clinical practicum (729.1X, 729.2X, 729.3X, 749.1X), special problems (796X), and courses taken on a tutorial basis may be counted toward the degree. The remaining credits required for the degree must be chosen in consultation with an adviser in the major area of concentration.

Courses in speech and hearing science may be incorporated on an elective basis within the degree programs in audiology and in speech-language pathology.

Certification of clinical competency

Only students who complete the degree requirements, including the NTE examination, are eligible for certification of clinical competency by the American Speech-Language-Hearing Association.

Those students who intend to apply for New York State teacher certification as teachers of students with speech and language disabilities must present course work as described in option (b) or (c) of the matriculation requirements for the M.S. in education, teacher of students with speech and language disabilities, or must complete an additional 6 graduate credits in education courses as follows: Education 742X, 792.IX. Additionally, those students must complete Speech 725.IX and Education 726.2T and 750.4T. In order to be eligible for teacher certification, students must also pass the L.A.S.T. and the A.T.S.-W.

M.S. in Ed., teacher of students with speech and language disabilities (all grades) HEGIS code 0815

Program adviser: Gail B. Gurland

Program office: 4400 Boylan Hall

Telephone: 951-5186

The profession of teacher education is licensed by the New York State Education Department. Therefore, program requirements are subject to change. All students should consult with the teacher education program adviser in the Department of Speech Communication Arts and Sciences for the current requirements.

Matriculation requirements

Applicants must offer at least 24 credits in speech and hearing with a grade point average of 3.00 or higher; including courses in each of the following: acoustics of speech and hearing; speech and language acquisition; anatomy and physiology of the speech and hearing mechanism; audiology; treatment of speech and language disorders; phonetics; speech and language disorders, and statistics.

Applicants must meet matriculation requirements of the School of Education under option (b) or (c) as follows: (b) courses in education that meet the New York State standards for the pedagogical core. These courses include study of the following: history of education and philosophy of education or principles of education or educational sociology; educational psychology or developmental psychology; or psychology of adolescence or adolescent development; classroom management; teaching students with special needs and English language learners; 6 credits of literacy and language acquisition; curriculum development and methods of assessing student learning; uses of technology in the classroom; a specified number of credits in the appropriate subject area (see listing above); and proof of having taken the L.A.S.T.; or (c) an undergraduate degree with an appropriate major or appropriate course work in the appropriate subject area (see listing above), and submission of L.A.S.T. scores.

Applicants must have a minimum undergraduate grade point average of 3.00 and a minimum average of 3.00 in courses required for matriculation.

International applicants for whom English is a second language are required to pass the Test of English as a Foreign Language (TOEFL) with a score of 550 before being considered for admission.

General matriculation and admission requirements of the Division of Graduate Studies are in the section "Admission."

Degree requirements

Fifty-four to 60 credits are required for the degree.

Forty-eight credits must be completed in the Department of Speech Communication Arts and Sciences. The following courses are required: Speech 711X, 721X, 723X, 725X, 725.1X, 726X, 727X, 733X, 736X, 737X, 741X; 9 credits chosen from Speech 706X, 714.IX, 715X, 716X, 718X, 722X, 724X, 728X, 730X, 731X, 731.IX, 732X, 734X, 735X, 735.IX, 738X, 739X, 748X; and 6 credits in clinical practicum for a minimum of 350 clinical hours (729.IX, 729.2X, 729.3X, 749.IX).

Students must complete 6 credits in the School of Education: Education 726.2T and 750.4T. Students admitted under option (c) under the matriculation requirements must complete an additional 6 credits in education as follows: Education 742X and 792.IX.

Students must pass a written departmental comprehensive examination and must take and report their scores on the National Teacher Examination (NTE/PRAXIS) in the major area of concentration. Additional information about the comprehensive examination is in the section "Academic Regulations and Procedures."

The program of study must be approved early in the first semester by the teacher education program adviser in the Department of Speech Communication Arts and Sciences.

CUNY Ph.D.

The City University of New York offers a doctoral program in speech and hearing sciences. General information about CUNY Ph.D. programs is in the chapter "About Brooklyn College."

The Speech Communication Arts and Sciences Department offers courses at Brooklyn College that are creditable toward the CUNY doctoral degree with permission of the executive officer of the doctoral program. For information about the courses, students should consult the deputy chairperson of the Speech Department and the executive officer of the doctoral program.

Courses

Unless a prerequisite is specific, students may apply graduate or undergraduate courses toward fulfillment of that prerequisite.

The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

Courses in speech are grouped in the following areas of study:

Audiology: Speech 710X, 711X, 714.IX, 716X, 725X, 729.2X, 734.1X, U740X, U741X, U742X, U744X, U745X, U746X, 747X, 748X, 749.IX 749.2X, 749.3X, 796X, 798X.

Oral interpretation: Speech 770X, 770.IX, 770.2X, 770.3X, 770.4X, 796X.

Public communication: Speech 702X, 750X, 750.IX, 751X, 752X, 753X, 754X, 755X, 756X, 758X, 759X, 796X, 798.6X, 799G.

Speech and hearing science: Speech 705X, 706X, 710X, 711X, 712X, 714.IX, 716X, 728X, 728.IX, 796X.

Speech-language pathology: Speech 706X, 711X, 712X, 715X, 716X, 718X, 721X, 722X, 723X, 724X, 725X, 726X, 727X, 729.IX, 729.2X, 729.3X, 730X, 731X, 731.IX, 732X, 733X, 734X, 735X, 735.IX, 736X, 737X, 738X, 739X, U741X, 749.IX, 749.2X, 796X, 797X.

705X Speech Science and Acoustic Phonetics

30 hours plus conference; 3 credits

Acoustic phonetic processes in the production and perception of speech; physiological correlates. Laboratory demonstrations.

Prerequisite: a course in each of the following: phonetics, anatomy of speech mechanisms, and acoustics of speech.

706X Behavioral Analysis of Language, Speech, and Hearing Therapy

30 hours plus conference; 3 credits

Contemporary behavioral theory in diagnosis, clinical practice, and research. Study of individual and group behavior in educational settings. Student demonstration projects.

Prerequisite: a graduate course in clinical methods in speech-language pathology or aural rehabilitation.

710X Psychological Acoustics

30 hours plus conference; 3 credits

Fundamentals of psychoacoustic methods, signal-detection theory, auditory sensitivity, masking, loudness, pitch, binaural hearing, and speech perception. Laboratory demonstrations.

Prerequisite: a course in the anatomy and physiology of the speech and hearing mechanism and a course in acoustics in speech and hearing.

711X Introduction to Techniques of Research in Speech-Language Pathology and Audiology

30 hours plus conference; 3 credits

Review and critique of research concepts and designs in speech, hearing, and language sciences. Students engage in research projects concerning developmental processes and disabilities in clinical and educational environments.

Prerequisite: a course in statistics.

714.IX Instrumentation in Speech and Hearing

30 hours lecture, 30 hours laboratory; 3 credits

Instruction in the use of instrumentation for diagnosis, therapy, and research as applied to clinical and educational environments. Projects to be selected from the student's area of interest.

Prerequisite: a course in the acoustics of speech and hearing.

715X The Therapeutic Relationship in Communication Disorders

30 hours lecture plus conference; 3 credits

Focus on an understanding of the relationships among the therapist, the client, and the family. Exploration of the contributions of social system and institutional supports as applied in clinical and educational settings.

Prerequisite or corequisite: a graduate course in diagnosis or clinical methods in speech-language pathology/audiology or permission of the deputy chairperson.

716X Computer Applications in Clinical and Educational Practice in Speech-Language Pathology and Audiology

30 hours plus conference; 3 credits

The use of personal computers to examine the hardware and software tools available for the evaluation, treatment, and clinical and instructional program management of individuals with varying disabilities; research on product applications and changing technological advances.

Prerequisite: a course in speech-language therapy methods or a course in educational methods.

717X An Introduction to Autism Spectrum Disorders

30 hours plus conference; 3 credits

Contemporary issues in autism spectrum disorders from an interdisciplinary and cross-paradigm perspective. Collaborative models for assessment and intervention within the fields of speech-language pathology, special education, and school psychology. Emphasis on partnerships with families. This course is the same as Education 751.3T.

Prerequisite: any undergraduate or graduate course in child development, language acquisition, or speech and language disorders; or permission from the deputy chairperson or program head.

718X Neurodevelopmental Speech-Language Assessment and Intervention (0-3 years)

30 hours plus conference; 3 credits

Identification, evaluation, and treatment of infants and toddlers who are at risk for significant communication and feeding disorders. Consideration of normal and atypical developmental processes.

Prerequisite: an undergraduate course in normal speech and language development, and an undergraduate course in speech and language disorders.

721X Language Disorders of Children

30 hours plus conference; 3 credits

Normal development of language. Etiology, diagnosis, and rehabilitation of preschool children's language disorders; consideration of cultural, ethnic, gender, socioeconomic, and individual variation; understanding of the foundations of literacy from prelinguistic to complex language development.

Prerequisite: a course in normal speech and language development.

722X The Nature of Stuttering

30 hours plus conference; 3 credits

Theories and research findings relating to the onset, development, persistence of stuttering.

Prerequisite: a course in speech and language disorders.

723X The Treatment of Stuttering

30 hours plus conference; 3 credits

Rationale and procedures for modifying stuttering, reducing anxiety, and enhancing fluency; application to clinical and educational settings.

Prerequisite: a course in clinical methods in speech and language disorders.

724X Speech Disorders in Cerebral Palsy

30 hours plus conference; 3 credits

Historical, etiological, neurophysiological assessment and treatment related to cerebral palsy. Emphasis on associated communication disorders and their impact on academic and social skills.

Prerequisite: a course in speech disorders and a graduate course in the anatomy and physiology of the speech mechanism.

725X Clinical Methods in Speech-Language Pathology

30 hours plus conference; 3 credits

General theories and practice of methods applied to the remediation of speech and language disorders in clinical and educational settings. Supervised instruction in the use of clinical procedures and instrumentation.

Prerequisite: a course in speech and language disorders.

725.1X Professional Practice in Educational Settings

30 hours plus field experience; 3 credits

Implementation of speech-language services in schools. Methodologies applicable to various service delivery models; educational law; strategies for effective participation in legally mandated activities in order for the speech and language impaired student to achieve prescribed academic standards. Observation of various classroom models.

Prerequisite: Speech 725X.

726X Aphasia and Related Disorders of Language

30 hours plus conference; 3 credits

Etiology, diagnosis, treatment of adolescents and adults with language difficulties related to acquired aphasia.

Prerequisite: a course in speech and language disorders and a course in the anatomy and physiology of the speech mechanism.

727X Voice Disorders

30 hours plus conference; 3 credits

Normal phonation and resonance. Etiology, diagnosis, and treatment of disorders as applied to clinical and educational environments.

Prerequisite: a course in speech disorders and a course in the anatomy and physiology of the speech mechanism.

728X Advanced Anatomy, Physiology, and Neurology of the Speech Mechanism

30 hours plus conference; 3 credits

Anatomy, physiology, and neurology of the speech mechanism and related articulation, respiration, phonation, and resonance functions.

Prerequisite: an undergraduate course in the anatomy and physiology of the speech and hearing mechanism.

728.1X Advanced Anatomy, Physiology, and Neurology of the Hearing Mechanism

30 hours plus conference; 3 credits

Anatomy, physiology, and neurology of the auditory pathways.

Prerequisite: an undergraduate course in the anatomy and physiology of the speech and hearing mechanism.

729.1X, 729.2X, 729.3X Clinical Practicum in Speech-Language Pathology

45 hours; 1 credit

Supervised clinical experience in community clinics, hospitals, nursing homes, and preschool, school-age, and adolescent educational settings. Weekly seminars. Speech 729.1X and 729.2X must be completed at the Brooklyn College Speech and Hearing Center. Speech 729.3X may be taken for credit four times.

729.1X Diagnostics

729.2X Rehabilitation

729.3X Advanced Diagnostics and/or Rehabilitation

Practicum hours will be counted toward minimum requirements for ASHA certification, teacher certification, and state licensure only in those courses in which a student earns a grade of B or better.

Prerequisite of 729.1X: a grade of A or B in Speech 733X or permission of the deputy chairperson.

Prerequisite of 729.2X: a grade of A or B in Speech 725X or permission of the deputy chairperson.

Prerequisite of 729.3X: a grade of A or B in Speech 729.2X or permission of the deputy chairperson.

Prerequisite or corequisite of 729.3X: Speech 729.1X or permission of the deputy chairperson.

730X Cleft Palate Speech

30 hours plus conference; 3 credits

Pathomorphology, clinical procedures, evaluation, and remedial management of individuals with cleft lip, cleft palate, and related disorders. Diagnostic and treatment procedures. Applications to clinical and educational settings.

Prerequisite: a course in speech disorders and a graduate course in the anatomy and physiology of the speech mechanism.

731X Neurogenic Motor Speech Disorders: Differential Diagnosis and Management

30 hours plus conference; 3 credits

Examination, diagnosis, and management of neurogenic speech dysfunctions resulting from disorders of the upper and lower motor neurons, disorders of the cerebellar system, hypokinetic and hyperkinetic disorders of the extrapyramidal system, degenerative disorders of multiple motor systems, and impairment of motor speech programming.

Prerequisite or corequisite: a graduate course in the anatomy and physiology of the speech mechanism.

731.1X Dysphagia: Evaluation and Management

30 hours plus conference; 3 credits

Examination of the anatomy and physiology of the oropharyngeal swallowing mechanism; normal and abnormal swallowing; interdisciplinary approaches to the evaluation management of swallowing disorders; video case presentations.

Prerequisite: Speech 728X or its equivalent or permission of the deputy chairperson.

733X Measurement and Evaluation of Speech and Language Disorders

30 hours plus conference; 3 credits

Critical analysis of measurement and evaluation procedures in diagnosing speech and language disorders. Test administration and interpretation of test results as applied to clinical and educational settings.

Prerequisite: a course in speech and language disorders.

734X Aging: Speech and Language Processes and Disorders

30 hours lecture plus conference and individual work; 3 credits

The effect of aging on speech and language processes and disorders.

Prerequisite: a course in speech and language disorders or permission of the deputy chairperson.

734.1X Aging: Hearing Processes and Disorders

30 hours lecture plus conference; 3 credits

The effect of aging on hearing processes and disorders. Assessment and rehabilitative techniques.

Prerequisite: a course in audiology or permission of the deputy chairperson.

735X Introduction to Second Language Acquisition and English Language Learning

30 hours plus conference; 3 credits

Survey of second language acquisition theory and research as it relates to teaching English as a second language. The influence of speech and language disorders. Application of recent research findings in child first and second language acquisition, language typology, universal grammar and parameters, various models of second language acquisition, instructed second language learning, the critical period hypothesis, the social context, and other influences on second language acquisition. Data collection and analysis. Applications to educational and community settings. This course is the same as English 779.2 and Education 798X.

Prerequisite: a course in normal language acquisition or permission of the deputy chairperson.

735.1X Assessment of Second Language Learners

30 hours plus conference; 3 credits

Assessment of English language learners, including those with special needs. Emphasis on qualitative and quantitative procedures. Examination of major language instruments for all ages and proficiency levels, development of self-made language tests and informal assessment techniques, and practical reflection on linking language assessment to instruction.

Consideration of linguistic, cultural, and socioeconomic background in modifying and adapting testing procedures. Applications to educational and community settings. This course is the same as Education 766.2X and English 779.1X.

Prerequisite: Either Education 760.49T and 761.49T or a course in normal development of language; or permission of the deputy chairperson.

736X Speech and Language-Based Learning Disabilities

30 hours plus conference; 3 credits

Normal development of language in the school-age child and adolescent. Etiology, diagnosis, and rehabilitation of speech and language-based learning disabilities in children and adults. Consideration of the interdependence among language, discourse, and literacy skills.

Prerequisite: a course in speech and language acquisition or permission of the deputy chairperson.

**736.IX Auditory Processing Disorders:
Assessment and Treatment**

30 hours plus conference; 3 credits

Neuroanatomy and physiology of the auditory pathways; behavioral and physiological assessment techniques and management procedures for school-age children and adults.

Prerequisite: Speech U741X or permission of the deputy chairperson.

737X Articulation and Phonological Disorders

30 hours plus conference; 3 credits

Etiology and diagnosis of articulation and phonological disorders. Consideration of phonological awareness and literacy. Rehabilitation of children and adults.

Prerequisite: a course in speech disorders.

738X Augmentative Communication

30 hours plus field experience; 3 credits

Etiology, diagnosis, and treatment of severely speech-impaired individuals requiring special augmentative adaptations for communication. Focus on nonelectronic systems, computerized aids, and the development of communication skills for the physically handicapped. Applications to home, clinical, and educational environments.

Prerequisite: a course in cerebral palsy or permission of the deputy chairperson.

738.IX Introduction to Assistive Technology

30 hours plus conference; 3 credits

Overview of the field of assistive technology. High and low technologies for communication, education, recreation, vocation, mobility, and independent living. Special input and output devices, access and proper seating and positioning. Issues in service delivery, key laws, and funding for assistive technologies. (Not open to students who completed Speech 797X, Fall 2002.)

**739X Organization, Management, and
Supervision of Speech and Hearing Programs**

30 hours plus conference; 3 credits

Theory and practice of organization, management, supervision of speech-language and hearing programs in clinical and educational settings.

Prerequisite: a graduate course in speech pathology and a graduate course in audiology; or permission of the deputy chairperson.

**U740X Communication Skills for
Hearing-impaired Adults**

30 hours plus conference; 3 credits

A comprehensive approach to the rehabilitation of adults with hearing impairments. Methods include cochlear implants and other sensory aids.

Prerequisite: a course in audiology.

U741X Diagnostic Audiology

30 hours plus conference; 3 credits

Audiologic test procedures used in differential diagnosis of peripheral hearing impairments and functional hearing problems. Calibration of equipment.

Prerequisite: an undergraduate course in diagnostic audiology.

U742X Hearing Aids

30 hours plus conference; 3 credits

Technical and clinical aspects of hearing aids and hearing aid selection and evaluation.

Prerequisite: Speech U740X and U741X; or the equivalent of the courses.

**U744X Community and Industrial Programs
in Audiology**

30 hours plus conference; 3 credits

Planning and organizing hearing conservation programs for industry and the community. Public school hearing conservation. Industrial and environmental noise problems and instrumentation. Evaluation and control of noise hazards. Effects of noise on people. Medicolegal aspects of noise-induced hearing impairment.

Prerequisite: Speech U741X or the equivalent.

U745X Pediatric Audiology

30 hours plus conference; 3 credits

Identification, evaluation, and amplification for infants and children with hearing impairments.

Prerequisite: Speech U741X or the equivalent.

**U746X Normal and Abnormal Hearing
Mechanisms: Medical Audiology**

30 hours plus conference; 3 credits

Embryology, anatomy, physiology, pathology of hearing mechanisms. Medical and audiological aspects of hearing disorders.

Prerequisite: a course in the anatomy and physiology of hearing and a course in audiology.

747X Advanced Diagnostic Audiology I

30 hours plus conference; 3 credits

Advanced differential diagnosis of auditory problems: advanced acoustic admittance, power reflectance, otoacoustic emissions, and electronystagmography.

Prerequisite: Speech U741X and 749.IX.

747.IX Advanced Diagnostic Audiology II

30 hours plus conference; 3 credits

Advanced diagnosis of auditory problems: auditory evoked potentials including electrocochleography, brain stem, middle latency response, late auditory response, and organic and nonorganic central auditory disorders.

Prerequisite: Speech 741X and 749.IX.

748X Language and Speech of Hearing-impaired Children

30 hours plus conference; 3 credits

Development, diagnosis, and treatment of speech and language in children with hearing impairments. Applications to clinical and educational settings.

749.1X, 749.2X, 749.3X Clinical Practicum in Audiology

45 hours; 1 credit

Supervised clinical experience. Weekly seminars. Speech 749.1X must be completed at the Brooklyn College Speech and Hearing Center. Speech 749.3X may be taken for credit four times. (Speech 749.1X is not open to students who have completed Speech 749X.)

749.1X Diagnostics

749.2X Diagnostics and/or Rehabilitation

749.3X Advanced Diagnostics and/or Rehabilitation

Practicum hours will be counted toward minimum requirements for ASHA certification and state licensure only in those courses in which a student earns a grade of B or better.

Prerequisite of 749.1X: a grade of A or B in Speech U741X or permission of the deputy chairperson.

Prerequisite of 749.2X: a grade of A or B in Speech U740X or permission of the deputy chairperson.

Prerequisite of 749.3X: a grade of A or B in Speech 749.1X or permission of the deputy chairperson.

750.1X Speech Communication and Group Dynamics

45 hours; 3 credits

Influence of group dynamics on speech communication effectiveness. Function of speech in formation of social groups. Current research in speech communication theories and group structure analysis.

Prerequisite: permission of the deputy chairperson.

756X Public Address

45 hours; 3 credits

Historical and rhetorical analysis of representative American public speakers.

Prerequisite: permission of the deputy chairperson.

758X Research in Rhetoric and Public Address

45 hours; 3 credits

Individual and group study of historical, descriptive, experimental research methods. Bibliographical resources and professional writing in rhetoric and public address.

Prerequisite: permission of the deputy chairperson.

759X Speech Criticism

45 hours; 3 credits

Comparative study of various methods of rhetorical criticism: traditional (neo-Aristotelian and historical); experiential (eclectic, sociocultural-psychological); grammatical-semantical; dramatistic; others.

Prerequisite: permission of the deputy chairperson.

760X Conflict Management: A Business Communication Perspective

45 hours; 3 credits

Current research findings, theories, and practices in conflict settings with respect to oral communication. Conflict resolution, negotiation, and mediation skills applied to the business environment. Simulated case studies and individual evaluations. Experience in developing the necessary conflict management skills.

Prerequisite: Speech 19.1; and Speech 23 or 33 or permission of the chairperson.

796X Special Problems

45 hours; 3 credits

Directed study supervised by a faculty member. With prior written permission of the deputy chairperson, this course may be repeated once for credit.

Prerequisite: permission of the deputy chairperson.

797X Proseminar in Speech-Language Pathology

45 hours; 3 credits

Intensive study of technical and theoretical problems.

Independent laboratory or library research. Detailed reports.

Prerequisite: a graduate course in speech and language disorders.

798X Proseminar in Audiology

45 hours; 3 credits

Intensive study of technical and theoretical problems.

Independent laboratory, clinical, library research. Detailed reports.

Prerequisite: Speech U740X and U741X; or the equivalent of the courses.

798.6X Seminar in Rhetoric and Public Address

45 hours; 3 credits

Examination of the types of rhetorical and oratorical research. Independent research and reports. Students may repeat this course twice for credit.

Prerequisite: permission of the deputy chairperson.

799G Thesis Research

Hours to be arranged; no credit

Research for master's thesis supervised by a faculty member.
Students register for this course only once.

Prerequisite: permission of the deputy chairperson.

The following courses are inactive and will be offered only if there is sufficient demand:

- 702X Current Trends and Problems of Speech**
- 712X The Neuropathology of Speech and Language Processes**
- 732X Speech and Language Problems of the Mentally Retarded**
- 751X Studies in Argumentation and Debate**
- 753X Rhetorical Theory: Classical and Medieval Perspective**
- 770X Oral Interpretation**
- 770.1X Studies in Oral Interpretation**
- 770.2X The Oral Tradition**
- 770.3X Contemporary Theories of Oral Interpretation**
- 770.4X Teaching the Oral Interpretation of Literature**

Television and Radio

Office: 304 Whitehead Hall

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Chairperson: George R. Rodman

Deputy Chairperson, Division of Graduate Studies:

Katherine G. Fry

Professors: Himmelstein, Rodman;

Associate Professors: Fry, Lewis, MacLellan, Meppen, Sosa, Spinelli;

Assistant Professors: Jannone, Patkanian, Wasser.

The Department of Television and Radio offers a master of science degree program in television and radio and a master of fine arts degree in television production. The Department of Television and Radio also offers courses that are part of the advanced certificate program in Performance and Interactive Media Arts (PIMA).

Note: For curriculum changes that may have been put into effect subsequent to the publication of this Bulletin, please consult the graduate deputy.

M.S. in television and radio HEGIS code 0603**Matriculation requirements**

Applicants must offer at least 12 credits, with an index of approximately B, in courses in television and radio. Other courses may be substituted with permission of the department.

General matriculation and admission requirements of the Division of Graduate Studies are in the section "Admission."

Applicants must submit the Graduate Record Examination Aptitude Test score or the Miller Analogy Test Score.

International applicants are required to pass the Test of English as a Foreign Language (TOEFL) with a score of at least 580 before being considered for admission.

Degree requirements

Thirty credits are required for the degree. Other than required courses, credits required for the degree must be in courses chosen in consultation with the graduate deputy chairperson. The program of study must be approved by the department. Courses in the Television and Radio Department offered toward the degree must be 700-level courses.

Students must complete 30 credits, at least 24 credits of which must be taken in the Television and Radio Department. Six credits must be taken in required courses offered by the department; the remaining 24 credits are elective, and must be approved in consultation with the deputy chairperson.

Every student shall be required to successfully complete the department's graduate core, which consists of Television and Radio 701X, to be taken in the first semester; and 710X, to be taken in the student's final semester of course work.

The M.S. degree emphasizes two areas of study: broadcast management and critical/cultural media studies. When choosing credits, students are encouraged to balance their

course of study in both areas for a well-rounded degree program.

Courses in the department that follow the broadcast management emphasis include: Television and Radio 722X, 724X, 725X, 726X, 727X, 794.5X.

Courses in the department that follow the critical/cultural media studies emphasis include: Television and Radio 713X, 714X, 715X, 728X.

M.S. students may also take the following two television production courses: Television and Radio 730X and 740G. All other television production courses are closed to M.S. students.

Television and Radio 769X and 796X will be available each semester. Students may take each of these courses only once during their program of study.

Up to 6 credits may be taken outside the department with the approval of the graduate deputy chairperson.

Students must pass a written comprehensive examination. The examination will consist of four questions in areas in which the student has taken courses during his/her course of study. Information about the comprehensive examination is in the section "Academic Regulations and Procedures."

M.F.A. in television production HEGIS code 0603

Matriculation requirements

Applicants must offer a minimum of 24 credits in media-related courses. Courses should include social effects of communication, organization of broadcast media, program planning, production, and direction. Other courses may be substituted with permission of the department.

All M.F.A. candidates serve as interns in the Television Center, for which they receive stipends. Each student must submit an intern application, which is available from the department, directly to the deputy chairperson. A biographical statement that indicates experience, interest, and professional objectives must accompany the application. The department intern committee may require an interview of applicants. Applicants must submit the Graduate Record Examination Aptitude Test score or the Miller Analogy Test Score.

International applicants are required to pass the Test of English as a Foreign Language (TOEFL) with a score of at least 580 before being considered for admission.

General matriculation and admission requirements of the Division of Graduate Studies are in the section "Admission."

Degree requirements

Forty-nine credits are required for the degree.

At least 40 credits must be taken in the Television and Radio Department. Of the 49 credits, 34 credits must be taken in departmental required courses; the remaining 15 credits are elective, and must be approved in consultation with the director of the M.F.A. program and the graduate deputy chairperson.

Every M.F.A. student shall be required to successfully complete the department's graduate core, which consists of Television and Radio 701X, to be taken in the first semester, and 710X, to be taken in the student's final semester of course work.

The Television Production specialization for M.F.A. students encompasses the following courses: Television and Radio 732X, 752X, 740G, 781G, 782G, 783G, 784G, 785.1G, 785.2G, 785.3G, and 785.4G, for a total of 28 credits.

The remaining 15 credits are elective. No more than 9 credits of these may be taken in departments outside the Television and Radio Department.

M.F.A. students may offer 3 credits of a Television Production Externship (Television and Radio 769X) toward the M.F.A. degree. This externship provides on-the-job production experience under the supervision of a selected television professional.

Creative work in the program must culminate in submission of either a finished television program or other creative audiovisual material (e.g., a CD-ROM or a fully developed Web site). The specific parameters of the student's creative thesis project must be formally approved by the director of the M.F.A. program in consultation with the student's faculty adviser. This audiovisual material shall meet the professional production and content standards appropriate for granting a terminal academic degree. The project will be accompanied by a production book acceptable to the department.

Students must pass a three-hour written comprehensive examination in their final semester. The examination will consist of two questions in the production/writing/aesthetics area.

Courses in the Television and Radio Department offered toward a degree must be 700-level courses.

Honor Society

Alpha Epsilon Rho is a national honor society in radio and television. Members are selected from both undergraduate and graduate students on the basis of achievement.

Courses

Unless a prerequisite is specific, students may apply graduate or undergraduate courses toward fulfillment of that prerequisite.

The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

Courses for nonmajors

614X Mass Media and Education

45 hours; 3 credits

Theory and practice of instruction using televised materials. Commercial and noncommercial programming for elementary, secondary, higher, and adult education. Utilization and evaluation of materials. (Not open to students who have completed Television and Radio 689X.)

Broadcast concepts**701X Introduction to the Study of Television and Radio**

45 hours; 3 credits

Introduction to the literature of mass media scholarship, methods of inquiry, bibliographic skills, and topical issues in the field. To be taken in student's first semester.

Prerequisite: permission of the deputy chairperson.

710X Television and Radio Seminar

45 hours; 3 credits

Current topics in electronic media. Emphasizes both entertainment industry and critical/cultural perspective. To be taken in student's final semester.

Prerequisite: Television and Radio 701X and permission of the deputy chairperson.

712X Mass Media in Society

45 hours; 3 credits

Examination of the relationship between mass media and society within the contexts of social and cultural theory.

Prerequisite or corequisite: Television and Radio 701X.

713X From the Telegraph to the Internet: Historical and Legal Development of American Electronic Mass Communication

45 hours lecture; 3 credits

In-depth industrial and cultural historical overview of the development of electronic mass communication. Historical and legal approaches and methods.

Prerequisite or corequisite: Television and Radio 701X; or permission of the deputy chairperson.

714X Critical Analysis of Television and Radio

45 hours; 3 credits

Textual and analytical approaches to electronic media. Survey of the most significant Marxist, structuralist, semiotic and formalist readings of media over the past one hundred years.

Prerequisite or corequisite: Television and Radio 701X; or permission of the deputy chairperson.

715X Media Reception: Viewing Processes and Practices

45 hours; 3 credits

Introduction to sociological, ethnographic, psychoanalytic, cognitive, and critical theories used to understand media audiences and processes of reception. Historical development of the various approaches; individual viewer response; construction of the mass audience and subcultures; fan production.

Prerequisite or corequisite: Television and Radio 701X; or permission of the deputy chairperson.

728X World Television

45 hours; 3 credits

The globalization of television and radio; implications of transnational satellite communication; problems and opportunities in international coproduction; changing patterns in distribution to a global market. Analysis of program genres and styles in the context of language, culture, and developmental differences. (Not open to students who have completed Television and Radio 796X, "Special Problems in World Television.")

Prerequisite: Television and Radio 701X; or permission of the deputy chairperson.

797X Special Topic in Mass Media

45 hours; 3 credits

Topics vary from term to term. Students may take this course twice but may not repeat a topic.

Prerequisite: Television and Radio 701X.

Planning and management**722X Seminar in Television and Radio Program Development and Audience Analysis**

45 hours; 3 credits

Process of television and radio program development. Conceiving and pitching a program idea; understanding genre cycles; determining windows of distribution; methods of measuring audiences; types of data collection and reporting; use of demographic data to make programming and management decisions.

Prerequisite or corequisite: Television and Radio 701X; or permission of the deputy chairperson.

725X Television and Radio Management Theory and Practice

45 hours; 3 credits

Theories of management of electronic mass media communication; industry structure, management styles and practices; finance and budgeting systems; human resource management; negotiation strategies.

Prerequisite: Television and Radio 701X.

726X Seminar in Television and Radio Management

45 hours; 3 credits

Principles of management. Problems and prevailing practices in television and radio. Fall term.

Prerequisite or corequisite: Television and Radio 701X and 725X; or 725X and permission of the deputy chairperson.

727X Television and Radio Marketing and Promotion

45 hours; 3 credits

Principles of marketing and promotion. Developing marketing and promotion strategies. Implementing campaigns. Evaluating their effectiveness in attracting audiences and building audience share in increasingly competitive electronic mass communication industries. This course is the same as Business 703X.

Prerequisite or corequisite: Television and Radio 701X; or permission of the deputy chairperson.

Television production

730X Television and Radio Production: Applied Aesthetics

3 hours; 3 credits

Analysis of the various audiovisual aesthetic "fields"—light, color, two-dimensional and three-dimensional space, time, motion/pace/rhythm, sound; narrative storytelling devices; and character types as cultural archetypes. Historical development of humorous and dramatic expression in television and radio.

Prerequisite or corequisite: Television and Radio 701X.

732X Problems in Multiple Camera Television Production

30 hours lecture, 30 hours laboratory; 3 credits

Integrating various elements into a program. Utilization of technical facilities. Relationship between purpose, script, production elements, producer, director, talent as a team. Problems of producing and directing various program formats including panel discussion, news, drama, art and cultural, and other studio-based program genres.

Prerequisite: matriculation in the M.F.A. program.

736X Television Program Directing

30 hours lecture, 30 hours laboratory; 3 credits

Problems of the television program director in regard to casting, script preparation, personnel organization, production planning, rehearsals and performance, effective utilization of the unique characteristics of television. Lecture, demonstration, experimental studio production of various types of programs.

Prerequisite: Television and Radio 732X for M.F.A. in Television Production candidates; PIMA 701G for advanced certificate candidates in the Performance and Interactive Media Arts program.

740G The Television Script: Structuring and Writing

45 hours; 3 credits

Develop skills in writing documentary, creative, and other scripts for television. Adapting material from other media. Various script formats. Developing and pitching ideas. Writing treatments. Creating storyboards. Completion of two scripts for different programs.

Prerequisite: matriculation in the M.F.A. degree.

752X Single Camera Production for Television

30 hours lecture, 30 hours laboratory; 3 credits

Problems of the television producer/director in using film or videotape. Problems of budgeting, casting, and scripting out-of-studio film and videotape productions. Basic videotape editing. Prerequisite: Television and Radio 732X or 786X.

769X Fieldwork in Electronic Media

200 hours of fieldwork plus conference hours to be arranged; 3 credits

Placement in a professional electronic media organization for intensive supervised assignment. Joint supervision by a faculty member and member of the organization. Regular conferences with faculty supervisor. Preparation of written report on fieldwork experience.

Prerequisite: matriculation in the M.S. or M.F.A. program and permission of the deputy chairperson.

772X Broadcast Journalism

45 hours; 3 credits

Analysis and evaluation of broadcast news, editorials, commentaries. Examination of network and local news operations. Relationship between print and electronic news reporting considered in terms of their effect on the audience. Historical study of the concepts of free speech, investigative reporting, and the right of citizens' access to government information. Fall term.

Prerequisite or corequisite: Television and Radio 701X.

776X The Television and Radio Documentary

45 hours; 3 credits

Development of radio and television programs to inform and persuade audiences. Comparison of the effect on audiences of different methods of presentation. Future trends in television and radio for social purposes. Spring term.

Prerequisite or corequisite: Television and Radio 701X or 786.5X or permission of the deputy chairperson.

Internship courses

The following courses may be applied only to the M.F.A. degree program in television and radio.

781G Video Post-Production Theory and Practice

15 hours lecture, 105 hours laboratory; 4 credits

Study and application of television post-production theory and technique. Students will receive instruction on digital editing systems and assemble short programs from pre-recorded footage and originally produced audiovisual sources. Emphasis is placed on the aesthetics of content creation and applied technique.

Prerequisite: matriculation for the M.F.A. degree in television production.

782G Advanced Problems in Studio and Field Video Production

15 hours lecture, 75 hours laboratory; 3 credits

Study and application of production theory and technique. Students receive training in creative content development, electronic media aesthetics, and production management. All aspects of pre-production, production, and post-production are considered. Students will write, produce, and edit short form video programs in both studio and location production environments.

Prerequisite: Television and Radio 781G.

783G Seminar in Television Program Production I

15 hours lecture, 90 hours laboratory; 4 credits

Independent research, development, direction, and production of a television program suitable for broadcast. Rotation of advanced crew assignments for in-studio and remote location productions. Development of a suitable production report. Review and approval of work in progress by faculty member.

Prerequisite: Television and Radio 782G.

784G Seminar in Television Program Production II

15 hours lecture, 90 hours laboratory; 4 credits

Independent research, development, direction and production of a television program suitable for broadcast. Rotation of advanced crew assignments for in-studio and remote location productions. Development of a suitable production report. Review and approval of work in progress by faculty member.

Prerequisite: Television and Radio 783G.

785.1G, 785.2G, 785.3G, 785.4G

Television Practicum I, II, III, IV

Minimum of 45 hours fieldwork each term;

1 credit each term

Faculty supervised work and projects in the Brooklyn College Television Center.

Prerequisite: matriculation for the M.F.A. degree.

Research courses

792.5X Research Practicum in Television and Radio

45 hours fieldwork; 1 credit

Directed research project under supervision of a faculty member. Weekly meetings to evaluate and monitor progress. With the prior permission of the deputy chairperson, this course may be taken three times.

Prerequisite: Television and Radio 701X and the permission of the deputy chairperson.

794.5X Television and Radio Audience Research

45 hours; 3 credits

Survey of methods of measuring audiences for radio and television programs. Types of data collection and reporting. Use of demographic data to make programming and management decisions. Original research and reports.

Prerequisite: Television and Radio 701X.

Prerequisite or corequisite: Television and Radio 725X.

796X Special Problems

45 hours; 3 credits

Directed study supervised by a faculty member. With prior written permission of the deputy chairperson, this course may be repeated once for credit.

Prerequisite: permission of the deputy chairperson.

The following courses are inactive and will be offered only if there is sufficient demand:

711X Broadcasting and the Development of Third World Countries

716X International Broadcasting

737X Broadcast News Laboratory

738X Urban Telecommunications Practicum

754X Advanced Single Camera Production

771X Broadcast Newswriting, Editing, and Management

773X The Broadcast Interview

777X Problems of Reporting

792X Research Methods in Television and Radio

Theater

Office: 317 Whitehead Hall
Telephone: 951-5666

Chairperson: Samuel L. Leiter

Deputy Chairperson, Division of Graduate Studies:
Tobie S. Stein

Deputy Chairperson, CLAS: Rose Bonczek

Professors: Bullard, Cunningham, Leiter, Scheffler, Stein;

Associate Professors: Kearney, Vivier;

Assistant Professors: Bonczek, Byam, Klimovitskaya,
McNulty, Sutherland-Cohen.

The Theater Department offers a master of arts degree program and a master of fine arts degree program. The Theater Department also offers courses that are part of the advanced certificate program in Performance and Interactive Media Arts (PIMA).

M.A. in theater HEGIS code 1007

Theater history and criticism.

Matriculation requirements

Applicants must offer at least 18 credits in theater courses including at least one course in each of the following: dramatic literature, theater history, and theater production.

General matriculation and admission requirements of the Division of Graduate Studies are in the section "Admission."

Degree requirements

Thirty credits are required for the degree.

At least 21 credits must be completed in courses in the Theater Department. Theater 799G (no credit) is required.

The remaining credits required for the degree must be in courses chosen in consultation with the chairperson.

Students must submit a thesis acceptable to the department. Information about requirements for the thesis is in the section "Academic Regulations and Procedures."

Courses in the Theater Department offered toward the degree must be 700-level courses.

The program of study must be approved in advance by the chairperson.

M.F.A. in theater HEGIS code 1007

Students choose a concentration in one of the following: acting, design and technical production, directing, dramaturgy, or performing arts management.

Matriculation requirements

Acting: Applicants must offer at least 18 credits or the equivalent in courses in acting and must pass an audition at the time of application.

Design and technical production: Applicants must offer at least 18 credits in theater courses including courses in directing, design, and theater production, or in such design-related

courses as architecture, art history, and painting. Applicants must be interviewed by the Theater Department or submit a portfolio directly to the Theater Department at the time of application.

Directing: Applicants must offer at least 18 credits in theater courses including courses in acting, directing, dramatic literature, theater history, and stagecraft. A production book for an actual or proposed production must be submitted directly to the Theater Department at the time of application. If possible, applicants should arrange to be interviewed by the Theater Department.

Dramaturgy: Applicants must offer at least 18 credits or the equivalent in theater and/or dramatic literature courses, submit at least three samples of formal essays or papers, and submit a statement of professional goals. If possible, applicants should arrange to be interviewed by the Theater Department.

Performing arts management: Applicants must offer at least 18 credits or the equivalent in courses in one of the following: dance, fine arts, music, or theater. Applicants must submit an essay on professional goals. Applicants must be interviewed by the Theater Department.

Consideration is also given to applicants who do not meet course requirements but who have equivalent experience or unusual talent in the chosen concentration. Such applicants should consult the chairperson.

A request for an audition or interview appointment may be made by letter or telephone to the Theater Department office.

General matriculation and admission requirements of the Division of Graduate Studies are in the section "Admission."

Degree requirements

Sixty credits are required for the degree.

Students must also submit a thesis based on a thesis project and/or production acceptable to the department. Information about requirements for the thesis is in the section "Academic Regulations and Procedures."

Prior to the above, all students must undergo a pre-thesis evaluation (consisting of a work-in-progress shown to the faculty, an academic progress review by faculty, or both) by the time they complete 24 credits. If a student's progress is not deemed satisfactory by the chairperson, the student will be denied the approval of a thesis production or project until the deficiencies noted in written form to the student have been corrected.

Students must complete requirements in one concentration as follows. No student may exceed a total of 12 credits in practicum and/or externship courses. The remaining credits required for the degree must be in courses chosen in consultation with the chairperson.

Acting: Theater U703X or U704X, 721.3X, 722.3X, 723.3X, 724.3X, 725.3X, 726.3X, 727.3X, 728.3X, 731.3X, 735.3X, 737.3X, U751X, U752X, and 778X. Acting candidates are required to audition for all departmental productions and

must accept roles as cast. Before taking Theater 778X, students must perform in a pre-thesis role approved by their adviser; must perform in a series of works-in-progress, and must serve as a production running crew supervisor.

Design and technical production: Theater U751X, U752X, 771.4X, 771.5X, 771.6X, 771.7X, 772.4X, 777.09X or 777.9X, 777.10X, 777.11X, 778X, 786X; and a minimum of three additional courses in design and technical production. Before taking Theater 778X, students must complete designs for actual productions at the experimental or thesis production level and must complete a design for a major production in fulfillment of the practicum course requirements.

Directing: Theater U703X or U704X, 720.3X, U751X and U752X, 771.5X or 771.6X or 771.7X, 773.9X, 775.2X, 776.2X, 777.2X, 777.09X or 777.9X or 778.9X, 777.10X or 778.10X, 777.11X, 778X, and 778.2X. Before taking Theater 778X, students must participate in such production capacities as actor, stage manager, technician, and/or assistant director in fulfillment of the practicum course requirements.

Dramaturgy: Theater U703X, U704X, U706X, U707X, U708X, U710X, U751X, U752X, U753X, 773.1X, 773.9X, 777.09X or 777.9X or 778.09X or 778.9X, 777.10X, 778X, 786.9X, 788.09X, 788.10X, 788.11X, and 788.12X. Students must spend two semesters as dramaturgy/literary management interns in fulfillment of the practicum course requirements; these assignments will be in association with a departmental production or off-campus production or publication approved by the adviser. The thesis may be a production protocol, or a collection of critical articles, or a historical research study.

Performing arts management: Theater U751X, U752X, 773.9X, 774.9X, 775.9X, 776.8X, 776.9X, 778.09X or 778.9X, 778.10X, 778.11X, and Economics 701X. With a few exceptions, students must also take Theater 789X, which requires the satisfactory completion of a ten- to fifteen-week week residency with a professional arts organization or agency approved by the chairperson and a thesis report based on the residency experience. Course substitutions for the preceding requirements may be approved by the chairperson based on individual student needs and qualifications. With the permission of the chairpersons of the Departments of Theater and of Economics, a student with an adequate background in accounting will be excused from taking Economics 701X.

Courses in the Theater Department offered toward the degree must be 700-level courses.

The program of study must be approved in advance by the chairperson.

CUNY Ph.D.

The City University of New York offers a doctoral program in theater. General information about CUNY Ph.D. programs is in the chapter "About Brooklyn College."

The Theater Department offers courses at Brooklyn College that are creditable toward the CUNY doctoral degree with

permission of the executive officer of the doctoral program. For information about the courses, students should consult the deputy chairperson of the Theater Department and the executive officer of the doctoral program.

Courses

Unless a prerequisite is specific, students may apply graduate or undergraduate courses toward fulfillment of that prerequisite.

The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

701X Theater Research and Bibliography

30 hours; 3 credits

Introduction to theater research, bibliography, critical methodology. Fall term.

703X Development of Dramatic Structure I

30 hours plus conference; 3 credits

Analysis of dramatic structure in representative major plays of Greek, Roman, medieval, Renaissance playwrights. Fall term.

704X Development of Dramatic Structure II

30 hours plus conference; 3 credits

Analysis of dramatic structure in representative major plays of eighteenth-century to twentieth-century playwrights. Spring term.

706X History of Theatrical Theory and Criticism I

30 hours plus conference; 3 credits

A survey of major theorists and critics concerned with drama and theater; both text and production, from Plato and Aristotle through the German philosophers and critics of the mid-nineteenth century. (Not open to students who have completed Theater U702X.)

707X History of Theatrical Theory and Criticism II

30 hours plus conference; 3 credits

A survey of major theorists and critics concerned with drama and theater; both text and production, from the mid-nineteenth century to the present, including melodrama, farce, theories of dramaturgy, expressionism, epic theater, political theater, and poststructuralism. (Not open to students who have completed Theater U702X.)

708X Introduction to Dramaturgy

30 hours plus conference; 3 credits

Introduction to the history and practice of dramaturgy in Europe and the United States since the eighteenth century. Development of basic dramaturgical skills: selection and analysis of classics and new plays, production research, principles of cutting, collaborative techniques, institutional dramaturgy.

U709X Problems in the Translation of Dramatic Texts

30 hours plus conference; 3 credits

Introduction to various theories of translation from John Dryden to Jacques Derrida. Creation of English translation of a stage or screen play. Seminar and writing workshop format. Prerequisite: reading knowledge of a foreign language.

U710X Models of Collaboration

2 hours and conference; 3 credits

Continuation of Theatre U708X. Further explorations into the nature and practice of dramaturgy. Special attention to the process of collaboration. Study of collaborations by artists of significance. Development of individual models through the collective dramaturgy of the class and through teams of artists undertaking two major projects. Development of such fundamental dramaturgical expertise as storytelling and interpretation within a clearly formulated aesthetic framework. Prerequisite: Theater U708X and/or approval of instructor or program head.

720.3X Improvisation for the Actor I

Minimum of 60 hours; 3 credits

Training in improvisation techniques for all performance situations. Psycho-physical exercises, commedia techniques, work with masks. Fall term.

Prerequisite: matriculation for the M.F.A. in theater or audition.

721.3X Acting I: The Actor's Imagination

Minimum of 60 hours; 3 credits

Advanced work in developing the actor's mental, physical, vocal flexibility. Acting with words, acting without words, ensemble work, characterization, experimentation. Fall term.

Prerequisite: matriculation for the M.F.A. in theater or audition.

722.3X Acting II: The Actor and the Contemporary Play

Minimum of 60 hours; 3 credits

Advanced study of scenes from contemporary plays. Emphasis on the actor's understanding of the form of the text and its expression on the stage. Spring term.

Prerequisite: Theater 721.3X or permission of the chairperson.

723.3X Acting III: The Actor and the Classic Play I

Minimum of 60 hours; 3 credits

Special acting problems presented by plays of different periods and genres, such as Greek tragedy, Restoration comedy, Feydeau's farces. Fall term.

Prerequisite: Theater 721.3X and 722.3X; or the equivalent of the courses.

724.3X Acting IV: The Actor and the Classic Play II

Minimum of 60 hours; 3 credits

Advanced study of scenes from classical plays. Acting problems presented by such works as Shakespeare's tragedies, Moliere's comedies, Brecht's epic theater. Spring term.

Prerequisite: Theater 723.3X or permission of the chairperson.

725.3X Movement for the Actor I

Minimum of 60 hours; 3 credits

Development of the actor's physical flexibility and control through study of the architecture of the body and its dynamic structure. Fall term.

Prerequisite: matriculation for the M.F.A. in theater or audition.

726.3X Movement for the Actor II

Minimum of 60 hours; 3 credits

Development of the actor's physical flexibility and control through study of the architecture of the body and its dynamic structure. Spring term.

727.3X Voice Production for the Actor I

Minimum of 60 hours; 3 credits

Training of the actor's speaking and singing voice. Fall term.

Prerequisite: matriculation for the M.F.A. in theater or audition.

728.3X Voice Production for the Actor II

Minimum of 60 hours; 3 credits

Training of the actor's speaking and singing voice. Spring term.

729.3X Improvisation for the Actor II

Minimum of 60 hours; 3 credits

Advanced work in improvisational techniques and application to specific performance situations.

Prerequisite: Theater 720.3X and permission of the chairperson.

731.3X Acting for the Camera

Minimum of 60 hours; 3 credits

Application of advanced acting skills to the particular techniques required when acting in television and on film.

Prerequisite: Theater 721.3X, 722.3X, and permission of the chairperson.

732.3X Voice Production for the Actor III

60 hours; 3 credits

Advanced training of the actor's speaking voice.

Prerequisite: Theater 727.3X and 728.3X; or permission of the chairperson.

733.3X Voice Production for the Actor IV

60 hours; 3 credits

Advanced training of the actor's speaking voice.

Prerequisite: Theater 727.3X, 728.3X, and 732.3X; or permission of the chairperson.

734.3X Voice Production for the Actor V

30 hours; 30 hours laboratory; 3 credits

Training of the actor's speaking voice with a special focus on techniques for clear diction in relation to the performance of the text. Introduction to dialects for the actor.

Prerequisite: matriculation for the M.F.A. in theater or audition.

735.3X Voice Production for the Actor VI

30 hours; 30 hours laboratory; 3 credits

Training of the actor's speaking voice with emphasis on techniques for clear diction as it relates to the heightened text. Further study of dialects for the actor.

Prerequisite: Theater 734.3X, or by permission of the chairperson.

736.3X Movement for the Actor III

30 hours; 30 hours laboratory; 3 credits

Application of advanced movement techniques and exercises to further expand the actor's awareness of the flexibility and strength of the aligned body. Emphasis on physical choices to inform character development and period style of the play.

Prerequisite: Theater 725.3X and 726.3X; or by permission of the chairperson.

737.3X Audition Techniques and the Business of Acting

30 hours; 30 hours laboratory; 3 credits

The study of business aspects of the profession, auditions, and marketing strategies.

Prerequisite: Theater 723.3X, 732.3X, 733.3X; or by permission of the chairperson.

740X History of Theater in Education

30 hours plus field experience; 3 credits

Twentieth-century history, theory, and practice of theater arts in education. Creative drama. British Theater in Education (TIE) movement. Artist-in-residence programs in the schools and the National Endowment for the Arts (NEA). Aesthetic education. Cultural literacy. Cross-disciplinary applications of arts. Teaching artist and classroom teacher. Standards and certification. Visits to school sites.

Prerequisite: approval of program head or chairperson.

741X Theater in the Classroom

30 hours plus field experience; 3 credits

Theater work in classroom settings. Existing models of theater arts in education. Using theater; improvisation, and creative drama to explore specialized subject areas and pedagogy. Practical studio work. The classroom as theater. Collaboration of education and theater students on theater in education projects, including workshops in focus schools. Mainstage and outside productions. Visits to area public schools. Creation of age-appropriate theater study guides. This course is the same as Education 796.

Prerequisite: approval of program head or chairperson.

U751X History of the Theater to 1642

30 hours plus conference; 3 credits

Survey of methods of production from ancient Greece to the closing of theaters by the Puritan Commonwealth. (Not open to students who have completed Theater 771.1X.) Fall term.

Prerequisite: a course in play production.

U752X History of the Theater from 1642

30 hours plus conference; 3 credits

Methods of production from the English Restoration to the present including French neoclassicism. (Not open to students who have completed Theater 772.1X.) Spring term.

Prerequisite: a course in play production or Theater U751X or 771.1X.

U753X History of the American Theater

30 hours plus conference; 3 credits

Theater in the United States from colonial times to the present. Its importance as a social and cultural force. Spring term.

U755X American Musical Theater

45 hours; 3 credits

History of American musical theater from its beginnings through today. Examination of major artists and productions.

U760.1X, U760.2X, U760.3X Studies in Theater History and Production

30 hours plus conference each term; 3 credits each term

History and theory of one of the component arts of the theater: acting, directing, scene design and lighting, theater architecture, stage costumes. Subject is announced in advance and is supervised by a specialist. U760.1X: Fall term.

770.5X Rendering Techniques for the Stage Designer

45 hours; 3 credits

Media and techniques involved in visual communication of the stage designer. Fall term.

Prerequisite: Theater 771.4X or permission of the chairperson.

770.6X Costume Construction for the Stage

45 hours; 3 credits

Theory and practice of constructing the stage costume for educational, community, professional theater. Application of these theories and techniques to current departmental productions. Spring term.

771.4X Stagecraft

30 hours lecture, 30 hours laboratory; 3 credits

Scenic construction equipment and techniques. Shop organization, materials, graphics, rigging and handling procedures, budgeting, lighting equipment maintenance and handling. Participation in department productions as assigned. Spring term.

Prerequisite: an introductory course in the principles and practices of theater production or permission of the chairperson.

771.5X Scene Design

45 hours; 3 credits

Principles of scenery design and their application to design problems. Fall term.

Prerequisite: Theater 771.4X or 772.4X or permission of the chairperson.

771.6X Costume Design

45 hours; 3 credits

Study of contemporary and period costume. Application to department productions. Fall term.

Prerequisite: an introductory course in the principles and practices of theater production.

771.7X Lighting Design

45 hours; 3 credits

Principles of lighting design and their application to design problems. Fall term.

Prerequisite: Theater 771.4X or the equivalent or permission of the chairperson.

772.4X Scenographic Techniques I: Fundamentals

45 hours; 3 credits

Study of fundamental scenographic concepts and execution of all necessary technical drawings used in preparation of scenery and lighting for the theater. Traditional tools and media will be used. Spring term.

Prerequisite: permission of the chairperson.

772.5X Advanced Scene Design

45 hours; 3 credits

Scene design for theater or television. Spring term.

Prerequisite: Theater 771.5X or the equivalent; and permission of the chairperson.

772.6X Advanced Costume Design

45 hours; 3 credits

Problems in costume design for the theater or television. Production design problems and principles. Application to a specific production. Spring term.

Prerequisite: Theater 771.6X.

772.7X Advanced Lighting Design

45 hours; 3 credits

Advanced study of lighting design. Spring term.

Prerequisite: Theater 771.7X or the equivalent; or permission of the chairperson.

772.8X Scenographic Techniques II: 2D CADD

45 hours; 3 credits

Study of Computer Assisted 2D Drafting and Design as applied to the disciplines of scenery, lighting, and costume design.

Prerequisite: Theater 771.4X, 772.4X, or equivalent; and permission of chairperson.

772.9X Scenographic Techniques III: 3D CADD and Rendering

45 hours; 3 credits

Study of Computer Assisted 3D Drafting and Design as applied to the disciplines of scenery, lighting, and costume design.

Prerequisite: Theater 771.4X, 772.4X, 772.8X, or equivalent; and permission of chairperson.

773.1X Seminar in Theater Criticism

30 hours plus conference; 3 credits

Theater criticism in relation to the dramatic arts. Spring term.

Prerequisite: Theater U751X and U752X.

773.4X Theater Design and Planning

30 hours plus conference; 3 credits

Study of the design and planning of a functioning theater. Examination of typical theater forms. Aesthetics of theater architecture. Spring term.

Prerequisite: Theater 771.5X; and Theater 773.9X or 775.2X or 772.2X or Speech and Theater 771.9X.

773.5X Advanced Studies in Design

45 hours; 3 credits

Application of stage design to a specific production. Projects in scenery, costume, and/or lighting. With prior written permission of the chairperson, students may repeat this course once, in a different area, for credit. Spring term.

Prerequisite: Theater 772.5X or 772.6X or permission of the chairperson.

773.9X Principles of Performing Arts Administration

45 hours; 3 credits

Introduction to history and methods of producing in the performing arts. Economic and administrative structuring of performing arts companies and institutions. Fall term.

774.4X Scene Painting

45 hours; 3 credits

Intensive study of styles of architecture and ornament as applied to scene painting. Traditional and contemporary styles; practices and procedures in scene painting. Application to department productions.

Prerequisite: Theater 771.4X or permission of the chairperson.

774.9X Business Management of the Performing Arts

45 hours; 3 credits

Managerial organization and structuring of contemporary performing arts ventures, companies, institutions. Economics, accounting, budgeting, box office organization and control. Spring term.

Prerequisite: Economics 701X or a college course in accounting or permission of the chairperson.

775.2X Directing I: Interpretive Fundamentals

Minimum of 60 hours; 3 credits

Text interpretation through the exploration of objectives, actions, obstacles, events, and environments. Fall term.

Prerequisite: permission of the chairperson.

775.6X Costume-Rendering Techniques

45 hours; 3 credits

Study and application of the methods, techniques, and media used by the costume designer in the realization and presentation of the costume sketch. Fall term.

775.9X Promotion and Marketing for the Performing Arts

45 hours; 3 credits

Methods of press, media, and direct mail promotion; theories of product marketing and audience development for performing arts companies and events. Spring term.

Prerequisite: permission of the chairperson.

776X Research Problems in Theater

45 hours; 3 credits

Individual and group study of advanced problems of theater production or history and criticism.

Prerequisite for students concentrating in design/technical: Theater 772.5X and Theater 773.4X; or the equivalent of the course.

Prerequisite for students concentrating in directing: Theater 722.3X and Theater 776.2X; Theater 773.4X or the equivalent of the course.

Prerequisite for students concentrating in theater history and criticism: Theater U751X, U752X, and 773.1X; or the equivalent of the courses.

776.2X Directing II: Rehearsal Process and Problems

Minimum of 60 hours; 3 credits

The director's relationship to the actor in the creation of a theater event; establishment of a common language. Culminates in a forty-minute prethesis production.

Spring term.

Prerequisite: Theater 775.2X or permission of the chairperson.

776.7X Technology in the Performing Arts

45 hours; 3 credits

Study of current and future performing arts management relationships between technology and the live performing arts; theory, principle, and practice. Computerized business, box office, production systems, cable and other video production, and marketing of live arts events. Fall term.

Prerequisite: permission of the chairperson.

776.8X Fundraising for the Performing Arts

30 hours plus conference; 3 credits

In-depth study of the philosophy and methodology of raising contributed income for the professional, nonprofit performing arts institutions. Fall term.

Prerequisite: permission of the chairperson.

776.9X The Performing Arts and the Law

45 hours; 3 credits

Analysis of legal briefs, contracts, copyright laws, and other legal obligations related to performing arts companies and institutions. Fall term.

Prerequisite: permission of the chairperson.

777.1X Labor and Employee Relations in the Performing Arts

45 hours; 3 credits

Labor/management relations in the performing arts; individual and collective bargaining negotiations; federal, state, and local regulations; personnel policies and legal issues. Fall term.

Prerequisite: permission of the chairperson.

777.2X Directing III: Interpreting the Classics

Minimum of 60 hours; 3 credits

Advanced study of new and classic texts to be selected and developed as scene study in collaboration with other theater artists. Fall term.

Prerequisite: Theater 775.2X and 776.2X; or permission of the chairperson.

777.09X, 777.10X, 777.11X Theater Practicum

Minimum of 60 hours; 3 credits each term

Assigned theater production work and projects, supervised by faculty, in the Brooklyn College Center for the Performing Arts. (Theater 777.09X is not open to students who have completed Theater 777.9X.)

Prerequisite: permission of the chairperson.

778X Thesis Production and/or Project

45 hours; 3 credits

Completion of an approved production and/or project with written thesis. (Not open to students who are enrolled in or have completed Theater 789X.)

Prerequisite: completion of the approved program for the M.F.A. in theater and recommendations of theater staff and permission of the chairperson.

778.2X Directing IV: Problems in Style

Minimum of 60 hours; 3 credits

Focus on the evolution of the director's personal vision with particular emphasis on visual and aural organization.

Prerequisite: Theater 775.2X, 776.2X, and 777.2X; or permission of the chairperson.

778.09X, 778.10X, 778.11X Performing

Arts Externship

200 hours of fieldwork per course plus conference to be arranged; 4 credits

Placement with a professional performing arts company or organization for intensive fieldwork; joint supervision by a faculty member and a member of the sponsoring organization. Regular conferences with faculty supervisor; preparation of a written report regarding the externship experience. (Theater 778.09X is not open to students who have completed Theater 778.9X.)

Prerequisite: permission of the chairperson.

779.2X Advanced Seminar in Directing

Minimum of 60 hours; 3 credits

Theory and practice of advanced problems in theater directing of classic plays for contemporary audiences; application of theory in rehearsal and performance. Spring term.

Prerequisite: Theater 775.2X, 776.2X, and permission of the chairperson.

786X Stage and Company Management

45 hours; 3 credits

Professional procedures and practices for the rehearsal, technical preparation, performance and touring of theater, opera, and dance productions.

Prerequisite: permission of the chairperson.

**786.9X Artistic/Managerial Decision Making
in the Performing Arts**

30 hours plus conference; 3 credits

Dynamics of planning, organizing, and realizing performing arts projects, ventures, companies, and institutions; interrelationships between artists, managers, and funding sources in the collaborative process of making performances. Spring term.

Prerequisite: permission of the chairperson.

787X Seminar in Performing Arts Management

30 hours plus conference; 3 credits

Study in depth of selected problems related to the management of performing arts organizations using the case study approach, role playing, other discussion methods. Spring term.

Prerequisite: Theater 773.9X or permission of the chairperson.

**788.09X, 788.10X, 788.11X, 788.12X
Criticism Workshop**

15 hours; 1 credit each term

Research and writing projects designed to strengthen skills in theatrical criticism and dramaturgy.

Prerequisite: permission of the chairperson.

789X Professional Residency and Thesis

Minimum of 400 hours of fieldwork plus conference; 6 credits

Full-time work with a professional arts company or organization under joint supervision of a faculty member and a staff member from the sponsoring organization. Written thesis covering the history of the organization, a description of the resident's responsibilities, an evaluation of the residency experience, and an overview of the field as a whole. (Not open to students who are enrolled in or have completed Theater 778X.)

Prerequisite: permission of the chairperson.

796.1X, 796.2X Special Problems

45 hours each term; 3 credits each term

Directed study supervised by a faculty member.

Prerequisite: permission of the chairperson.

799G Thesis Research

Hours to be arranged; no credit

Research for master's thesis supervised by a faculty member. Degree is not earned until thesis is accepted. Students register for this course only once.

Prerequisite: permission of the chairperson.

Women's Studies Program

Office: 227 Ingersoll Hall Extension
Telephone: 951-5476, 951-5777, 951-4807
Director: Barbara Winslow

The following course is inactive and will be offered only if there is sufficient demand:

700X Theories of Feminism



Student Rights and College Rules

Equal opportunity policy

It is the policy of the Board of Trustees of The City University of New York and of Brooklyn College to provide, for all persons, equal educational and employment opportunities in a working and learning environment in which students and employees are able to realize their full potential as productive members of the College community. To this end, it is the College's policy that its educational and employment programs will be administered without regard to race, color, national or ethnic origin, religion, gender, transgender, sexual orientation, age, alienage or citizenship, disability or veteran status, or other factors irrelevant to productive participation in the programs of the College. Further, in keeping with local, state, and federal mandates and recognizing the many benefits that accrue from a community of diverse experience and cultural heritage, the College pledges to act affirmatively in providing employment opportunities for qualified women, racial and ethnic minorities, Vietnam-era veterans, and individuals with disabilities. All Brooklyn College employees—administrators, members of the faculty, and staff—and students are expected to cooperate fully in meeting these legal and ethical mandates.

Inquiries or complaint-related matters pursuant to any of the equal opportunity laws, including Executive Order 11246, Title VII of the Civil Rights Act, the Rehabilitation Act of 1973, the Vietnam Era Veterans' Readjustment Act of 1974, the Americans with Disabilities Act, Title IX of the Education Amendments, and others, may be addressed to the Office of Affirmative Action, Compliance, and Diversity, 2147 Boylan Hall (telephone: 951-4128). Students with disabilities may wish, in the first instance, to contact the coordinator of the Center for Student Disability Services, 138 Roosevelt Hall (telephone: 951-5538).

Policy against sexual harassment

The policy of the City University of New York is to promote a cooperative work and academic environment in which there is mutual respect among students, faculty, and staff. Harassment on the basis of

gender is inconsistent with this objective and contrary to the university's policy of equal employment and educational opportunity. It is a violation of this policy for any member of the university community to engage in sexual harassment or for any member of the university community to take action against an individual for reporting sexual harassment. The university's policy against sexual harassment is carried out by Brooklyn College through the Sexual Harassment Advisory Panel and the Sexual Harassment Education Committee, which consist of students and members of the faculty, administration, and staff. There are both formal and informal procedures for dealing with complaints or concerns of sexual harassment. An individual may contact any member of the panel for an informal, confidential conversation.

A complete statement of the university's sexual harassment policy and procedures and the names of members of the Sexual Harassment Advisory Panel may be obtained in the Brooklyn College Library (first floor), the Office of the Dean of Undergraduate Studies, the Office of the Dean for Student Life, the Office of Affirmative Action, Compliance, and Diversity, or from Associate Professor Miriam Deutch, coordinator of the Sexual Harassment Advisory Panel, 412 Library (telephone: 951-5221).

Policy on academic integrity

Academic dishonesty of any type, including cheating and plagiarism, is unacceptable at Brooklyn College. Cheating is any misrepresentation in academic work. Plagiarism is the representation of another person's work, words, or ideas as your own. Students should consult the Brooklyn College Student Handbook for a fuller, more specific discussion of related academic integrity standards. Faculty members are encouraged to discuss with students the application of these standards to work in each course. Academic dishonesty is punishable by failure of the "test, examination, term paper, or other assignment on which cheating occurred" (Faculty Council, May 18, 1954). In addition, disciplinary proceedings in cases of academic dishonesty may result in penalties of admonition, warning, censure, disciplinary probation, restitution, suspension, expulsion, complaint to civil authorities, or ejection. (Adopted by Policy Council, May 8, 1991.)

Sale of term papers

Title I, Article 5, Section 213-b of the New York State Education Law provides in pertinent part that: "No person shall, for financial consideration, or the promise of financial consideration, prepare, offer to prepare, cause to be prepared, sell or offer for sale to any person any written material which the seller knows, is informed, or has reason to believe is intended for submission as a dissertation, thesis, term paper, essay, report, or other written assignment by a student in a university, college, academy, school, or other educational institution to such institution or to a course, seminar, or degree program held by such institution."

Nonattendance because of religious beliefs

Title I, Article 5, Section 224-a of the New York State Education Law provides that:

- "1. No person shall be expelled from or be refused admission as a student to an institution of higher education for the reason that he [or she] is unable, because of his [or her] religious beliefs, to attend classes or to participate in any examination, study or work requirements on a particular day or days.
- "2. Any student in an institution of higher education who is unable, because of his [or her] religious beliefs, to attend classes on a particular day or days shall, because of such absence on the particular day or days, be excused from any examination or any study or work requirements.
- "3. It shall be the responsibility of the faculty and of the administrative officials of each institution of higher education to make available to each student who is absent from school, because of his [or her] religious beliefs, an equivalent opportunity to make up any examination, study or work requirements which he [or she] may have missed because of such absence on any particular day or days. No fees of any kind shall be charged by the institution for making available to the said student such equivalent opportunity.
- "4. If classes, examinations, study or work requirements are held on Friday after four o'clock post meridian or on Saturday, similar or makeup classes, examinations, study or work requirements shall be made available on other days, where it is possible and practicable to do so. No special fees shall be

charged to the student for these classes, examinations, study or work requirements held on other days.

- "5. In effectuating the provisions of this section, it shall be the duty of the faculty and of the administrative officials of each institution of higher education to exercise the fullest measure of good faith. No adverse or prejudicial effects shall result to any student because of his [or her] availing himself [or herself] of the provisions of this section.
- "6. Any student, who is aggrieved by the alleged failure of any faculty or administrative officials to comply in good faith with the provisions of this section, shall be entitled to maintain an action or proceeding in the supreme court of the county in which such institution of higher education is located for the enforcement of his [or her] rights under this section."

Nondiscrimination for students with disabilities

It is the policy of the City University of New York to comply with Section 504 of the Rehabilitation Act of 1973 as amended, the Americans with Disabilities Act (ADA) of 1990 as amended, state legislation (Executive Law 296), local law, and applicable regulations promulgated pursuant to these laws to prohibit the exclusion of qualified students with disabilities, solely by reason of their disability, from participation in college programs or activities. Brooklyn College, as a unit of the City University, does not and will not discriminate against qualified students with disabilities in access to its programs and/or services. Disability, for purposes of this policy, is defined to mean a "physical or mental impairment that substantially limits one or more major life activities," such as walking, seeing, hearing, speaking, breathing, or learning, for example.

Brooklyn College will operate its programs and activities so that these programs and activities, when viewed in their entirety, will provide meaningful accessibility to qualified students with disabilities in order to maximize the student's opportunity to meet the challenges of higher education. Pursuant to this policy, the College will (1) provide individual academic adjustments and auxiliary educational aids and (2) make structural modifications of existing facilities if no other feasible way exists to make a program or activity accessible, as long as no individual academic adjustment,

auxiliary educational aid, or structural modification would (1) fundamentally alter the nature of the program or activity or (2) result in an undue financial burden to the College.

Regulations that would have the effect of limiting the participation of students with disabilities in the educational program, such as a general rule that would prohibit the use of tape recorders or braillers in the classroom or dog guides in campus buildings, are prohibited.

Students who need individual accommodations in order to participate more fully in College programs or services pursuant to this policy should direct their needs to the Center for Student Disability Services, 138 Roosevelt Hall (telephone: 951-5538). The center serves as the primary program for assisting students with disabilities to integrate successfully into the Brooklyn College community and for making determinations of what will constitute appropriate academic adjustments.

In addition, through the center, students have access to the Frank and Mamie Goldstein Resource Center, a special resource center with such assistive technology as voice recognition, voice-synthesized document and screen reading, and screen and document magnification for use on an individual or group basis. Similar equipment is also available at the Brooklyn College Library, the Atrium Computer Lab, and the Topfer Library Café.

If a requested academic adjustment cannot be implemented or if a student believes that she or he is being discriminated against on the basis of a handicap or disability, the student should contact the coordinator of the Center for Student Disability Services. Students may also consult with the Office of Affirmative Action, Compliance, and Diversity (AACD), 2147 Boylan Hall (telephone: 951-4128), which will, as appropriate, refer the matter to the center; attempt to resolve the dispute among the parties, or accept a formal complaint in accordance with applicable procedures. A complete statement of the College's policy and procedures may be obtained from the offices of the center or AACD.

Access to student records

Rights of access. Pursuant to the Family Educational Rights and Privacy Act of 1974 and the Board of Trustees of The City University of New York Student Records Access Policy of April 1979, Brooklyn College students have "the right to inspect and review any and all official records, files, and data directly related" to them and to deny access by others without written consent of the student except under limited and specified circumstances. This right pertains to any present or former student but not to candidates for admission.

Procedures. A student who wishes to inspect and review his or her educational records may make the request to the Student Records Access Officer of the College or to the person in charge of the office who is the official custodian of the record in question, but a request pertaining to records in the custody of a teacher or counselor should be made directly to that teacher or counselor. Requests made to the Student Records Access Officer in the Office of the Registrar must be made by completing a request form. Requests for records in other locations may be oral or written. Requests will be granted or denied within fifteen days of receipt of the request.

If the request is granted, the student will be notified of the time and place where records may be inspected. If the request is denied or not responded to within fifteen days, the student may appeal. Additional information regarding the appeal procedure will be provided to the student if a request is denied.

A student may request an amendment of education records that the student believes are inaccurate or misleading. In this case, the student should write to the College official who is responsible for the record, clearly identify the part of the record that is in question, and specify why it is inaccurate or misleading. If the College decides not to amend the record, the student will be notified of the decision and advised of his or her right to a hearing. When the student is notified, additional information will be provided regarding the hearing procedures.

Directory information (name, address, telephone listing, date and place of birth, major field of study, class, year or date of expected graduation, participation in officially recognized activities and sports, height and weight of members of athletic teams, dates of attendance,

degrees and awards received, and the most recent educational agency or institution attended by the student) may be released to persons having a legitimate interest in this information.

A student may require that any or all of the information set forth above may not be released without the student's prior written consent if the student completes a form that is available in the Office of the Registrar. A student's education records, other than directory information stated above, shall be released without the student's consent only to university officials—including trustees, College officials, faculty, and staff—with a legitimate educational interest. Upon request, the College may disclose education records without consent to officials of another school in which a student seeks or intends to enroll.

Brooklyn College's policies and procedures are the means by which policies of the Board of Trustees of The City University of New York are implemented. The complete texts of the revised Board of Higher Education policy as adopted April 23, 1979, and the Family Educational Rights and Privacy Act of 1974, as amended, are available for review in the Office of the Registrar, 1118 Boylan Hall.

Policy on withholding student records. In accordance with a resolution adopted by the Board of Trustees of The City University of New York on April 23, 1979, and amended on March 25, 1985, it was resolved that:

"Students who are delinquent and/or in default in any of their financial accounts with the college, the University, or an appropriate State or Federal agency for which the University acts as either a disbursing or certifying agent, and students who have not completed exit interviews, as required by the National Direct Defense Student Loan (now Perkins Loan) Program and the Nursing Student Loan Program, are not to be permitted to complete a registration, or issued a copy of their grades, a financial aid transcript, a transcript of academic record, certificate or degree, nor are they to receive funds under the Federal campus-based student assistance programs or the Pell (Basic) Grant Program unless the designated officer, in exceptional hardship cases and consistent with Federal and State regulations, waives in writing the application of this regulation."

Grievance procedures

Grievance procedures for specific College rules and regulations differ depending on the nature of the complaint. Any student who has a grievance against another member of the College community may receive help with processing an informal complaint or in filing a petition of complaint in the Office of the Dean for Student Life, 2113 Boylan Hall.

Rules and regulations for the maintenance of public order pursuant to Article 129A of the Education Law

Adopted by the Board of Higher Education June 23, 1969, and November 23, 1970, these rules and regulations were amended October 27, 1980; May 22, 1989; and June 25, 1990, by the Board of Trustees of The City University of New York.

"The tradition of the University as a sanctuary of academic freedom and center of informed discussion is an honored one, to be guarded vigilantly. The basic significance of that sanctuary lies in the protection of intellectual freedoms: the rights of professors to teach, of scholars to engage in the advancement of knowledge, of students to learn and to express their views, free from external pressures or interference. These freedoms can flourish only in an atmosphere of mutual respect, civility, and trust among teachers and students, only when members of the University community are willing to accept self-restraint and reciprocity as the condition upon which they share in its intellectual autonomy.

"Academic freedom and the sanctuary of the University campus extend to all who share these aims and responsibilities. They cannot be invoked by those who would subordinate intellectual freedom to political ends or who violate the norms of conduct established to protect that freedom. Against such offenders the University has the right, and indeed the obligation, to defend itself. We accordingly announce the following rules and regulations to be in effect at each of our colleges, which are to be administered in accordance with the requirements of due process as provided in the Bylaws of the Board of Higher Education.

"With respect to enforcement of these rules and regulations, we note that the Bylaws of the Board of Higher Education provide that: The President. The president, with respect to his [or her] educational

unit, shall:

" "a. Have the affirmative responsibility of conserving and enhancing the educational standards of the college and schools under his [or her] jurisdiction;

" "b. Be the advisor and executive agent of the Board and of his [or her] respective College Committee and as such shall have the immediate supervision with full discretionary power in carrying into effect the bylaws, resolutions and policies of the Board, the lawful resolutions of any of its committees, and the policies, programs and lawful resolutions of the several faculties;

" "c. Exercise general superintendence over the concerns, officers, employees, and students of his [or her] educational unit. . ."

"I. Rules

"1. A member of the academic community shall not intentionally obstruct and/or forcibly prevent others from the exercise of their rights. Nor shall he [or she] interfere with the institution's educational processes or facilities, or the rights of those who wish to avail themselves of any of the institution's instructional, personal, administrative, recreational, and community services.

"2. Individuals are liable for failure to comply with lawful directions issued by representatives of the University/college when they are acting in their official capacities. Members of the academic community are required to show their identification cards when requested to do so by an official of the college.

"3. Unauthorized occupancy of University/college facilities or blocking access to or from such areas is prohibited. Permission from appropriate college authorities must be obtained for removal, relocation, and use of University/college equipment and/or supplies.

"4. Theft from or damage to University/college premises or property, or theft of or damage to property of any person on University/college premises is prohibited.

"5. Each member of the academic community or an invited guest has the right to advocate his [or her] position without having to fear abuse, physical, verbal, or otherwise, from others supporting

conflicting points of view. Members of the academic community and other persons on the college grounds shall not use language or take actions reasonably likely to provoke or encourage physical violence by demonstrators, those demonstrated against, or spectators.

- “6. Action may be taken against any and all persons who have no legitimate reason for their presence on any campus within the University/college, or whose presence on any such campus obstructs and/or forcibly prevents others from the exercise of their rights or interferes with the institution's educational processes or facilities, or the rights of those who wish to avail themselves of any of the institution's instructional, personal, administrative, recreational, and community services.
- “7. Disorderly or indecent conduct on University/college-owned or -controlled property is prohibited.
- “8. No individual shall have in his [or her] possession a rifle, shotgun, or firearm or knowingly have in his [or her] possession any other dangerous instrument or material that can be used to inflict bodily harm on an individual or damage upon a building or the grounds of the University/college without the written authorization of such educational institution. Nor shall any individual have in his [or her] possession any other instrument or material which can be used and is intended to inflict bodily harm on an individual or damage upon a building or the grounds of the University/college.
- “9. Any action or situation which recklessly or intentionally endangers mental or physical health or involves the forced consumption of liquor or drugs for the purpose of initiation into or affiliation with any organization is prohibited.
- “10. The unlawful manufacture, distribution, dispensation, possession, or use of illegal drugs or other controlled substances by University students or employees on University premises or as part of any University/college activities is prohibited. Employees of the University must also notify the College Personnel Director of any criminal drug statute conviction for a violation occurring in the workplace not later than five (5) days after such conviction.

“11. The unlawful possession, use, or distribution of alcohol by students or employees on University/college premises or as part of any University/college activities is prohibited.

“II. Penalties

- “1. Any student engaging in any manner in conduct prohibited under substantive Rules I–II shall be subject to the following range of sanctions as hereafter defined in the attached Appendix: admonition, warning, censure, disciplinary probation, restitution, suspension, expulsion, ejection, and/or arrest by the civil authorities.
- “2. Any tenured or non-tenured faculty member, or other member of the instructional staff, or member of the classified staff engaging in any manner in conduct prohibited under substantive Rules I–II shall be subject to the following range of penalties: warning, censure, restitution, fine not exceeding those permitted by law or by the Bylaws of The City University of New York or suspension with/without pay pending a hearing before an appropriate college authority, dismissal after a hearing, ejection, and/or arrest by the civil authorities, and, for engaging in any manner in conduct prohibited under substantive rule 10, may, in the alternative, be required to participate satisfactorily in an appropriately licensed drug treatment or rehabilitation program.
- “A tenured or non-tenured faculty member or other member of the instructional staff or member of the classified staff charged with engaging in any manner in conduct prohibited under substantive Rules I–II shall be entitled to be treated in accordance with applicable provisions of the Education Law, or the Civil Service Law, or the applicable collective bargaining agreement, or the Bylaws or written policies of The City University of New York.
- “3. Any visitor, licensee, or invitee engaging in any manner in conduct prohibited under substantive Rules I–II shall be subject to ejection and/or arrest by the civil authorities.
- “4. Any organization which authorizes the conduct prohibited under substantive Rules I–II shall have its permission to operate on campus rescinded.
- “Penalties I–4 shall be in addition to any other penalty provided by law or The City University.

“Appendix

“Sanctions defined:

- “A. Admonition. An oral statement to the offender that he [or she] has violated University rules.
 - “B. Warning. Notice to the offender, orally or in writing, that continuation or repetition of the wrongful conduct, within a period of time stated in the warning, may be cause for more severe disciplinary action.
 - “C. Censure. Written reprimand for violation of specified regulation, including the possibility of more severe disciplinary sanction in the event of conviction for the violation of any University regulation within a period stated in the letter of reprimand.
 - “D. Disciplinary Probation. Exclusion from participation in privileges or extracurricular University activities as set forth in the notice of disciplinary probation for a specified period of time.
 - “E. Restitution. Reimbursement for damage to or misappropriation of property. Reimbursement may take the form of appropriate service to repair or otherwise compensate for damages.
 - “F. Suspension. Exclusion from classes and other privileges or activities as set forth in the notice of suspension for a definite period of time.
 - “G. Expulsion. Termination of student status for an indefinite period. The conditions of readmission, if any is permitted, shall be stated in the order of expulsion.
 - “H. Complaint to civil authorities.
 - “I. Ejection.
- “Resolved, That a copy of these rules and regulations be filed with the Regents of the State of New York and with the Commissioner of Education.
- “Resolved, That these rules and regulations be incorporated in each college bulletin.”

Statement of policy on the presence of illegal substances on campus

Revised 1996

The use, sale, or transfer of illegal substances will not be tolerated at Brooklyn College. Unlawful possession or sale of drugs is a crime, subject, upon criminal conviction, to prison sentences of up to life imprisonment. No member of the academic community who may be liable for criminal prosecution and conviction may receive special consideration due to his or her status within the College. The campus is not a sanctuary, and should members of the College community violate criminal laws on illicit use, sale, or transfer of drugs, whether on or off campus, they must accept the full legal consequences for their actions.

The police and other law enforcement agencies are required to investigate violations of the law wherever these may occur. Search warrants may be obtained and undercover agents placed on this campus without College approval or knowledge.

Apart from the issue of criminal illegality, the presence of illegal drugs on campus constitutes a disruptive situation within the College community. Muggings and thefts, for example, are reported to increase proportionately in association with drug traffic. An individual who becomes involved with illegal drugs establishes evidence that he or she is in at least indirect contact with an explicitly criminal element. These contacts invite intrusions into the College community by informers to law enforcement agencies and others, thereby undermining the trust and free flow of ideas implicit to the College community.

The College has the authority to prevent disruptive situations that may detract from its educational purposes. Pursuant to that authority, the College hereby serves notice that it will undertake disciplinary proceedings against any member of the academic community who uses, sells, or transfers illegal drugs on campus.

Policy

- I. The use, sale, or transfer of illegal substances on campus is disruptive and a violation of campus policy. Infractions of this policy will be enforced as follows:
 - A. Students accused of violating this policy will be subject to discipline with procedural due process

- outlined in Article XV of the Bylaws of the Board of Trustees.
- B. Faculty members accused of violating this policy will be subject to discipline with procedural due process outlined in Article VII of the Bylaws of the Board of Trustees.
- College disciplinary proceedings are not criminal proceedings, nor are they intended to replace the function of criminal proceedings. The primary concern of the College is to provide and maintain those conditions that enhance the educational process. Any member of the College community who is found to have violated this Brooklyn College Statement of Policy is subject to the following penalties prescribed in the Bylaws of the Board of Trustees:
- a. Admonition,
 - b. Warning,
 - c. Censure,
 - d. Disciplinary Probation,
 - e. Restitution,
 - f. Suspension,
 - g. Expulsion,
 - h. Complaint to Civil Authorities, and
 - i. Ejection.
- II. The College recognizes the personal difficulties and complexities that are associated with drug and alcohol use. Members of the College community in need of assistance are invited and encouraged to use the confidential therapeutic and counseling services that are available. Professional substance-abuse counselors together with trained students have proved of great assistance over the past years in drug and alcohol rehabilitation. An appointment for these services may be obtained by calling the Personal Counseling Office, 1303 James Hall (telephone: 951-5363).
- III. A. Persons who are not members of the College community who use illegal substances on campus will be taken to the Department of Campus and Community Safety Services for appropriate action. This could include notifying their schools, parents, other officials on campus, and the police.

- B. Any person making a sale of illegal substances on campus will be subject to arrest.

Student immunization requirement

New York State Law requires all students to submit documentation proving immunity to measles, mumps, and rubella. Information on procedure for proving immunity is in the section "Admission" in this *Bulletin*.

Smoking regulations

The following resolution on smoking policy was adopted on September 29, 1994, by the Board of Trustees of The City University of New York:

"Smoking is prohibited inside all facilities owned, leased, or operated by the City University of New York, effective January 1, 1995."

Bias-related crimes

The Hate Crimes Act of 2000 (Article 485 of the Penal Law) provides for increased penalties for specified crimes that have been committed based upon a victim's race, color, national origin, ancestry, gender, age, disability, religion, religious practice, or sexual orientation. These crimes are known as "hate" or "bias-related" crimes. The crimes covered by this law include: assault, menacing, manslaughter, stalking, rape, sexual abuse, unlawful imprisonment, kidnapping, criminal trespass, grand and petit larceny, robbery, and harassment. Hate-crime laws are designed to send the message that hate- and bias-motivated crimes will not be tolerated because they are often attempts to silence and instill fear into entire groups. The University also has policies prohibiting bias-related crimes: The "University-wide Program to Combat Bigotry and to Promote Pluralism and Diversity," adopted on January 24 and March 21, 1994, and "A Statement of Principles and Recommendations for Actions on Pluralism and Diversity in The City University of New York," adopted on March 31, 1988.

Any student who is a victim of a bias-related crime should immediately report the incident to the Office of the Dean for Student Life, 2113 Boylan Hall, (718) 951-5352, and the Office of Campus and Community Safety Services, 0202 Ingersoll Hall Extension, (718) 951-5511. Students are encouraged to seek counseling from trained psychologists on our staff. They will assist with the consequences of bias-related crime trauma and provide crisis intervention,

in-office counseling, referral to other support services, and self-help groups. Please contact Personal Counseling at (718) 951-5363. The College will assist any student wishing to contact outside agencies, including local police, regarding charges and complaints of a bias-related crime.



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Viraht Sahni Physics, 2001–2006

Sharon Zukin Sociology, 2003–2008

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William M. Sherzer Modern Languages and Literatures, 2002–2005

Sylvia Fine Professor in Musical Theater

Vacant

Donald I. Fine Professor in Creative Writing

Mac Wellman English

Murray Koppelman Professor

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The date of initial appointment follows the listing for each faculty and staff member.

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Ana M. Acosta Assistant Professor of English. M.A., Universidad de Los Andes, Bogotá; Ph.D., Columbia. 1999

Roberta Adelman Coordinator of Services for Students with Disabilities. B.A., New School; M.A., New York. 1990

Jonathan E. Adler Professor of Philosophy. B.A., Brooklyn; M.A., Ph.D., Brandeis; D.Phil., Oxford. 1974

Julie A. Agoos Associate Professor of English. B.A., Harvard; M.A., Johns Hopkins. 1994

Stephen U. Aja Associate Professor of Geology. B.S., Nigeria; M.S., Hull, England; Ph.D., Washington State. 1993

Ellen Alexander Lecturer in Music (adjunct). B.Mus., University of the Arts. 2001

Ray Allen Associate Professor of Music; Director, American Studies Program. B.S., Bucknell; M.A., Western Kentucky; Ph.D., Pennsylvania. 1993

Alejandro Alonso Instructor in Modern Languages and Literatures. Licenciatura en Filosofía, Universidade de Santiago de Compostela, Spain. 1999

Gastón Alonso Assistant Professor of Political Science. B.A., M.A., Ph.D., California, Berkeley. 2001

Taiwo L. Amoo Associate Professor and Deputy Chairperson, SGS, Department of Economics. B.S., Ibadan, Nigeria; Ph.D., Exeter, England. 1999

Bonnie Sour Anderson Broeklundian Professor of History. B.A., Brown; M.A., Ph.D., Columbia. 1972

Joan Antonicelli Registrar. B.S., St. Peter's College; M.S., Baruch. 1988

Patricia Antoniello Associate Professor of Health and Nutrition Sciences. B.A., M.A., M. Phil., Ph.D., Columbia. 1987

Nicholas G. Armstrong Director, Preparatory Center for the Performing Arts. B.A., University of Bristol, England; M.Mus., Virginia Commonwealth University. 1999

David M. Arnow Professor of Computer and Information Science. B.A., Oberlin; M.S., Ph.D., New York. 1981

Louis S. Asekoff Professor of English. B.A., Bowdoin; M.A., Brandeis. 1967

Sau-fong Au Director, Women's Center. B.A., Chinese University of Hong Kong; M.Ed., Rutgers. 2000

Moshe J. Augenstein Professor of Computer and Information Science. B.S., Brooklyn; M.S., Ph.D., New York. 1970

Kathleen V. Axen Professor and Deputy Chairperson, Nutrition, Division of Graduate Studies, Department of Health and Nutrition Sciences. B.S., Hunter; M.S., Ph.D., Columbia. 1983

Jonathan P. Babcock Assistant Professor and Deputy Chairperson, CLAS and SGS, Conservatory of Music. B.Mus., M.Mus., Crane School of Music; D.M.A., Hartt School of Music. 2001

H. Arthur Bankoff Professor and Chairperson, Department of Anthropology and Archaeology; Director, Archaeological Research Center. B.A., Brooklyn; Ph.D., Harvard. 1971

Amotz Bar-Noy Professor of Computer and Information Science. B.A., Ph.D., Hebrew University, Israel. 2001

Richard Barrett Professor of Music. Dip., Juilliard. 1986

Jennifer A. Basil Assistant Professor of Biology. B.S., SUNY, Albany; M.A., Ph.D., Massachusetts. 1999

Moustafa M. Bayoumi Associate Professor of English. B.A., University of Waterloo, Canada; M.A., M.Phil., Ph.D., Columbia. 1998

Igor Begelman Associate Professor of Music (adjunct). B.Mus., Manhattan School of Music; M.Mus., Juilliard. 2002

Robert Bell Professor and Chairperson, Department of Economics. B.A., California, Berkeley; Ph.D., Brunel, England. 1986

Ellen R. Belton Dean of Undergraduate Studies; Professor of English. B.A., Bryn Mawr; M.A., Ph.D., Columbia. 1967

Bertha Bendelstein Acquisition Unit Chief, Technical Services, Library. 1959

Joseph Benedict, Jr. Executive Director, Student Center. B.S., SUNY, Brockport; M.S., SUNY, Albany; M.S., C.W. Post, Long Island. 1990

Michael Bergen Acting Director, Speech and Hearing Center. B.A., Queens; M.S., Brooklyn. 1995

David Berger Broeklundian Professor of History. B.A., Yeshiva; M.A., Ph.D., Columbia. 1969

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Alberto Blasi Professor of Modern Languages and Literatures. Licenciado en Letras, Universidad de Buenos Aires; Doctor en Letras, Universidad de La Plata. 1975

David C. Bloomfield Associate Professor of Education. B.A., Brandeis; M.P.A., Princeton; J.D., Columbia. 1999

Elaine Bonazzi Professor of Music (adjunct). B.Mus., Eastman School of Music. 1999

Rose Bonczeck Assistant Professor and Deputy Chairperson, CLAS, Department of Theater. B.A., SUNY, New Paltz; M.F.A., Brooklyn. 1989

Albert Haskell Bond, Jr. Professor of Physics. B.A., Harvard; M.S., Ph.D., Wisconsin. 1970

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Marianne Booufall Tynan Director, Admissions. B.A., Adelphi; M.S., C.W. Post, Long Island. 1988

Raushan Bouziakova Assistant Professor of Mathematics. B.S., M.S., Ph.D., Moscow State University. 2001

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Thomas F. Boyle Professor of English. B.A., Cornell; M.A., Ph.D., New York. 1969

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Elisabeth Brauner Associate Professor of Psychology. M.S., University of Oldenburg, Germany; Ph.D., Georg-August University, Germany. 2003

George A. Brinton Associate Professor of English; Director, Master of Arts in Liberal Studies Program. B.A., Cornell; M.A., Ph.D., Washington. 1972

Elaine Brooks Professor of English. B.A., SUNY, Buffalo; M.A., Columbia; Ph.D., New York. 1980

Virginia Brooks Professor, Head of Production, and Deputy Chairperson, CLAS, Department of Film. B.A., M.A., Cornell; M.F.A., M.Phil., Ph.D., Columbia. 1981

William F. Browne Professor of English. B.A., M.A., Long Island; Ph.D., CUNY. 1971

Rachel Mayer Brownstein Professor of English. B.A., Barnard; M.A., Ph.D., Yale. 1973

Kenneth A. Bruffee Professor of English; Director, Honors Academy, Scholars Program, and Dean's List Honors Research Program. B.A., Wesleyan; M.A., Ph.D., Northwestern. 1966

Stephan F. Brumberg Professor of Education. B.A., Williams; M.A.T., Ed.D., Harvard. 1972

George Brunner III Senior Laboratory Technician, Conservatory of Music. B.A., Glassboro State; B.F.A., M.F.A., California Institute of the Arts. 1983

Dave Bryan Acting Director, Health Programs Office. B.S., M.A., Brooklyn. 1996

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Mark Butler Lecturer in Physical Education and Exercise Science (adjunct). B.A., Brigham Young; J.D., Chicago. 1998

Dale Byam Assistant Professor of Theater. B.A., Concordia University, Canada; M.A., Ph.D., New York. 2002

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Accessible Facilities for Persons with Disabilities

Boylan Hall

Restrooms: Women: students, 0403 near bookstore, 2105, 5107, and 6111; staff, 2142.

Men: students, 0401, 2216, 5108, and 6113; staff, 2124.

Telephones: Volume control and wheelchair accessible: basement level, near room 0167, 2163A, 4163A, and near 6111.

Ramp: Main entrance on Quadrangle.

Automatic doors: Main entrance on Quadrangle.

Elevator: "B" near main entrance.

Gershwin Hall

Restrooms: 06A, 011, 080, and 083.

Telephones: Wheelchair accessible: off theater lobby near 149.

Infrared listening devices: 092 Levenson Recital Hall; 143 Gershwin Theater.

Seating: Wheelchair seating locations with companion seating; aisle transfer seating.

Ramps: Theater entrance on Campus Road (open for performances only); building entrance on campus.

Automatic doors: Building entrance on campus.

Elevator: Building lobby.

Ingersoll Hall

Restrooms: See Ingersoll Hall Extension.

Telephones: Volume control; 1165, 2105A, and near 2163A.

Infrared listening devices: 1310 and 2310.

Ramp: Main entrance on Quadrangle.

Automatic doors: Main entrance on Quadrangle.

Elevator: Near main entrance.

Ingersoll Hall Extension

Restrooms: Women: students, 138; staff, 112. Men: students, 140; staff, 110.

Telephones: Volume control: 136, 322b, and 338.

Wheelchair accessible: near 136, 439, and 525. Infrared listening devices: 148.

Ramps: Bedford Avenue entrance and near Lily Pond.

Elevators: All.

James Hall*

Restrooms: Women: students, 1406; staff, 1605. Men: students, 1312 and 1402; staff, 1601.

Telephones: Wheelchair accessible: near 1602; with volume control: 2602.

Ramp: See Plaza Building.

Automatic doors: Second-floor exit to Plaza Deck.

Elevators: All. James Hall elevators provide access to Plaza Building, Plaza Deck, Roosevelt Hall, and Roosevelt Hall Extension. At the basement and first-floor levels of Plaza Building and Roosevelt Hall, Roosevelt Hall Extension can be accessed via interior ramp near the Bedford Avenue entrance to Roosevelt Hall.

La Guardia Hall— Brooklyn College Library

Restrooms: All floors.

Telephones: Volume control and wheelchair accessible.

Ramp: Main entrance on Quadrangle.

Automatic doors: Main entrance on Quadrangle.

Elevators: All.

Infrared listening devices: Auditorium.

* Plaza Building will be closed for demolition on September 1, 2004. There will not be any crossing between James and Roosevelt Halls except via the sidewalk on Bedford Avenue and a construction walkway by the athletic field.

The handicap entrance for James Hall will be from Bedford Avenue, with the existing HC elevator.

Roosevelt Hall and Roosevelt Hall Extension will be accessible by a ramp from Bedford Avenue, south of the existing ramp, which will be demolished. There will be a new handicap lift on the stairs on the west side of Roosevelt Hall (to exit or enter via Ocean Avenue).

Plaza Building*

Restrooms: Women: 1119; men: 1121. Also basement level and men's and women's locker room, near Plaza Pool.

Telephones: Volume control and wheelchair accessible: outside main building entrance.

Ramps: Entrance off Bedford Avenue provides access to Plaza Building, Roosevelt Hall, Roosevelt Hall Extension, and James Hall.

Elevator: Elevator off Bedford Avenue ramp entrance provides access to the basement and first floor of Plaza Building. See also James Hall.

Quadrangle

Ramps: Corner between La Guardia Hall and Ingersoll Hall; corner between La Guardia Hall and Boylan Hall.

Roosevelt Hall*

Restrooms: Health Clinic, 114. Women, 104. Men, 124.

Telephones: See Roosevelt Hall Extension.

Ramp: See Plaza Building and Roosevelt Hall Extension.

Automatic doors: Basement-level entrance, near loading dock and parking lot.

Elevator: East-side elevator opposite 004 and 108 provides access to Roosevelt Hall and Roosevelt Hall Extension.

Roosevelt Hall Extension*

Restrooms: Women: students, 202; students and staff, 405. Men: students, 209; students and staff, 409.

Telephones: Volume control and wheelchair accessible: near 120.

Elevators: West-side elevator, opposite 005 and 102, provides access to Roosevelt Hall Extension only. East-side elevator, opposite 004 and 123, provides access to Roosevelt Hall and Roosevelt Hall Extension.

Student Center

Restrooms: Basement level; second, fourth, fifth, and sixth floors; and Penthouse.

Telephones: Volume control: basement level and second, third, fifth, and sixth floors.

Ramp: Entrance near Campus Road and Amersfort Place.

Elevators: All.

Whitehead Hall

Restrooms: Women: students, 108; staff, 308. Men: students, 109; staff, 310.

Telephones: Volume control: first-floor lobby, near stairway, near 222. Wheelchair accessible: outside entrance, opposite library; first-floor lobby, near stairway; near 222 and 416.

Ramp: Entrance on Campus Road is on street level. Entrance on campus has chairlift to first floor.

Automatic doors: Entrances on Campus Road and opposite library.

Elevators: All.

Wheelchair lift: Entrance opposite library has interior wheelchair lift for access to elevator.

Whitman Hall

Restrooms: Lobby and stage level.

Telephones: Volume control: mezzanine lobby.

Infrared listening devices: 023 New Workshop Theater; 101 Whitman Hall.

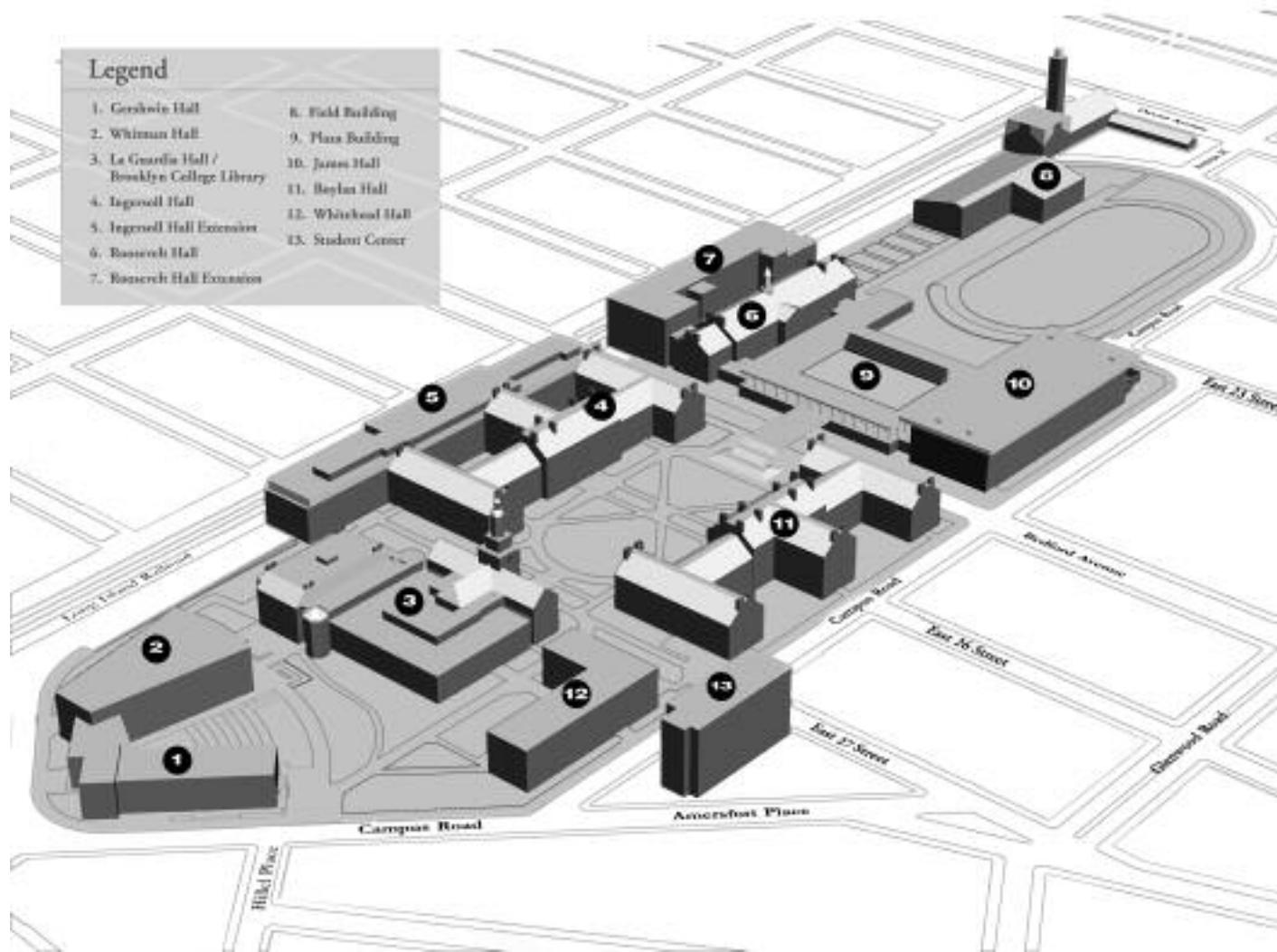
Seating: Wheelchair seating locations with companion seating; aisle transfer seating.

Ramp: Entrance on sidewalk level.

Automatic doors: Main entrance.

Legend

- | | |
|--|--------------------|
| 1. Gershwin Hall | 8. Field Building |
| 2. Whisman Hall | 9. Plaza Building |
| 3. Le Guardia Hall / Brooklyn College Library | 10. James Hall |
| 4. Ingerson Hall | 11. Beylev Hall |
| 5. Ingerson Hall Extension | 12. Whitehead Hall |
| 6. Research Hall | 13. Student Center |
| 7. Research Hall Extension | |



BROOKLYN



COLLEGE

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